

**Area Management Report for the Recreational
Fisheries of Northern Cook Inlet, 2003**

by

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and

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July 2004

Alaska Department of Fish and Game

Division of Sport Fish



Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)		General		Measures (fisheries)	
centimeter	cm	Alaska Administrative		fork length	FL
deciliter	dL	Code	AAC	mid-eye-to-fork	MEF
gram	g	all commonly accepted		mid-eye-to-tail-fork	METF
hectare	ha	abbreviations	e.g., Mr., Mrs., AM, PM, etc.	standard length	SL
kilogram	kg			total length	TL
kilometer	km	all commonly accepted			
liter	L	professional titles	e.g., Dr., Ph.D., R.N., etc.	Mathematics, statistics	
meter	m			<i>all standard mathematical</i>	
milliliter	mL	at	@	<i>signs, symbols and</i>	
millimeter	mm	compass directions:		<i>abbreviations</i>	
		east	E	alternate hypothesis	H _A
		north	N	base of natural logarithm	<i>e</i>
		south	S	catch per unit effort	CPUE
		west	W	coefficient of variation	CV
		copyright	©	common test statistics	(F, t, χ^2 , etc.)
		corporate suffixes:		confidence interval	CI
		Company	Co.	correlation coefficient	
		Corporation	Corp.	(multiple)	R
		Incorporated	Inc.	correlation coefficient	
		Limited	Ltd.	(simple)	r
		District of Columbia	D.C.	covariance	cov
		et alii (and others)	et al.	degree (angular)	°
		et cetera (and so forth)	etc.	degrees of freedom	df
		exempli gratia		expected value	<i>E</i>
		(for example)	e.g.	greater than	>
		Federal Information		greater than or equal to	≥
		Code	FIC	harvest per unit effort	HPUE
		id est (that is)	i.e.	less than	<
		latitude or longitude	lat. or long.	less than or equal to	≤
		monetary symbols		logarithm (natural)	ln
		(U.S.)	\$, ¢	logarithm (base 10)	log
		months (tables and		logarithm (specify base)	log ₂ , etc.
		figures): first three		minute (angular)	'
		letters	Jan,...,Dec	not significant	NS
		registered trademark	®	null hypothesis	H ₀
		trademark	™	percent	%
		United States		probability	P
		(adjective)	U.S.	probability of a type I error	
		United States of		(rejection of the null	
		America (noun)	USA	hypothesis when true)	α
		U.S.C.	United States	probability of a type II error	
			Code	(acceptance of the null	
		U.S. state	use two-letter	hypothesis when false)	β
			abbreviations	second (angular)	"
			(e.g., AK, WA)	standard deviation	SD
				standard error	SE
				variance	
				population	Var
				sample	var
Weights and measures (English)					
cubic feet per second	ft ³ /s				
foot	ft				
gallon	gal				
inch	in				
mile	mi				
nautical mile	nmi				
ounce	oz				
pound	lb				
quart	qt				
yard	yd				
Time and temperature					
day	d				
degrees Celsius	°C				
degrees Fahrenheit	°F				
degrees kelvin	K				
hour	h				
minute	min				
second	s				
Physics and chemistry					
all atomic symbols					
alternating current	AC				
ampere	A				
calorie	cal				
direct current	DC				
hertz	Hz				
horsepower	hp				
hydrogen ion activity	pH				
(negative log of)					
parts per million	ppm				
parts per thousand	ppt,				
	‰				
volts	V				
watts	W				

FISHERY MANAGEMENT REPORT NO. 04-05

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FISHERIES OF NORTHERN COOK INLET, 2003**

by

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INTRODUCTION

This report is divided into two sections. Section I presents an introductory overview of the Northern Cook Inlet Management Area. Included in this section are a general geographic and organizational description of the management area; an inventory of the available fishery resources of the management area; an overview of the Alaska Board of Fisheries processes and the Sport Fish Division Strategic Plan; existing management plans; a historical perspective of recreational angler effort, catch, and harvest within management area waters; and an approximation of the economic value of the recreational fisheries of the management area. A general description of research, management and educational activities, ongoing access programs, and a summary of the current major biological and social issues in the Northern Cook Inlet Management Area are also presented. Section II provides a more detailed summary of the major fisheries in the Northern Cook Inlet Management Area. Included in this section are a description and historical perspective of each fishery; the objective governing their management; and descriptions of recent fishery performance, recent Board of Fisheries actions, social and biological issues, and ongoing or recommended research and management activities.

SECTION I: MANAGEMENT AREA OVERVIEW

MANAGEMENT AREA DESCRIPTION

The Northern Cook Inlet sport fish management area (NCIMA) includes all freshwater drainages and adjacent marine waters of Upper Cook Inlet between the southern tip of Chisik Island and the Eklutna River, excluding the upper Susitna River drainage above the Oshetna River confluence (Figure 1). The management area encompasses approximately 30,000 square miles and is dominated by the Susitna River drainage which originates in glaciers of the Alaska and Talkeetna mountain ranges and flows about 200 miles in a southerly direction before entering Cook Inlet near Anchorage. Most sport fisheries in the NCIMA are easily accessible by road or jet boat, with the exception of the remote West Cook Inlet Unit (WCI) waters accessible only by boat or aircraft.

For the purposes of management and harvest reporting, the NCIMA is segregated into four major units (Figure 1):

1. **Knik Arm Unit:** This unit includes all waters bounded on the north by Willow Creek (not including Willow Creek), on the west by a line ½ mile east of the Susitna River, on the south by Cook Inlet, Knik Arm and the Eklutna River (not including the Eklutna River), and on the east by the Upper Susitna River drainage upstream of its confluence with the Oshetna River. All adjacent marine waters of Cook Inlet are included.
2. **Eastside Susitna Unit:** This unit includes all drainages of the upper Susitna River above the Chulitna River to and including the Oshetna River drainage, all eastside drainages of the Chulitna River, and all eastside drainages of the Susitna River below its confluence with the Chulitna River to and including Willow Creek to the south. This management unit has no marine waters.
3. **Westside Susitna Unit:** This unit includes all westside drainages of the Chulitna River, and all westside drainages of the Susitna River below its confluence with the Chulitna River and, primarily

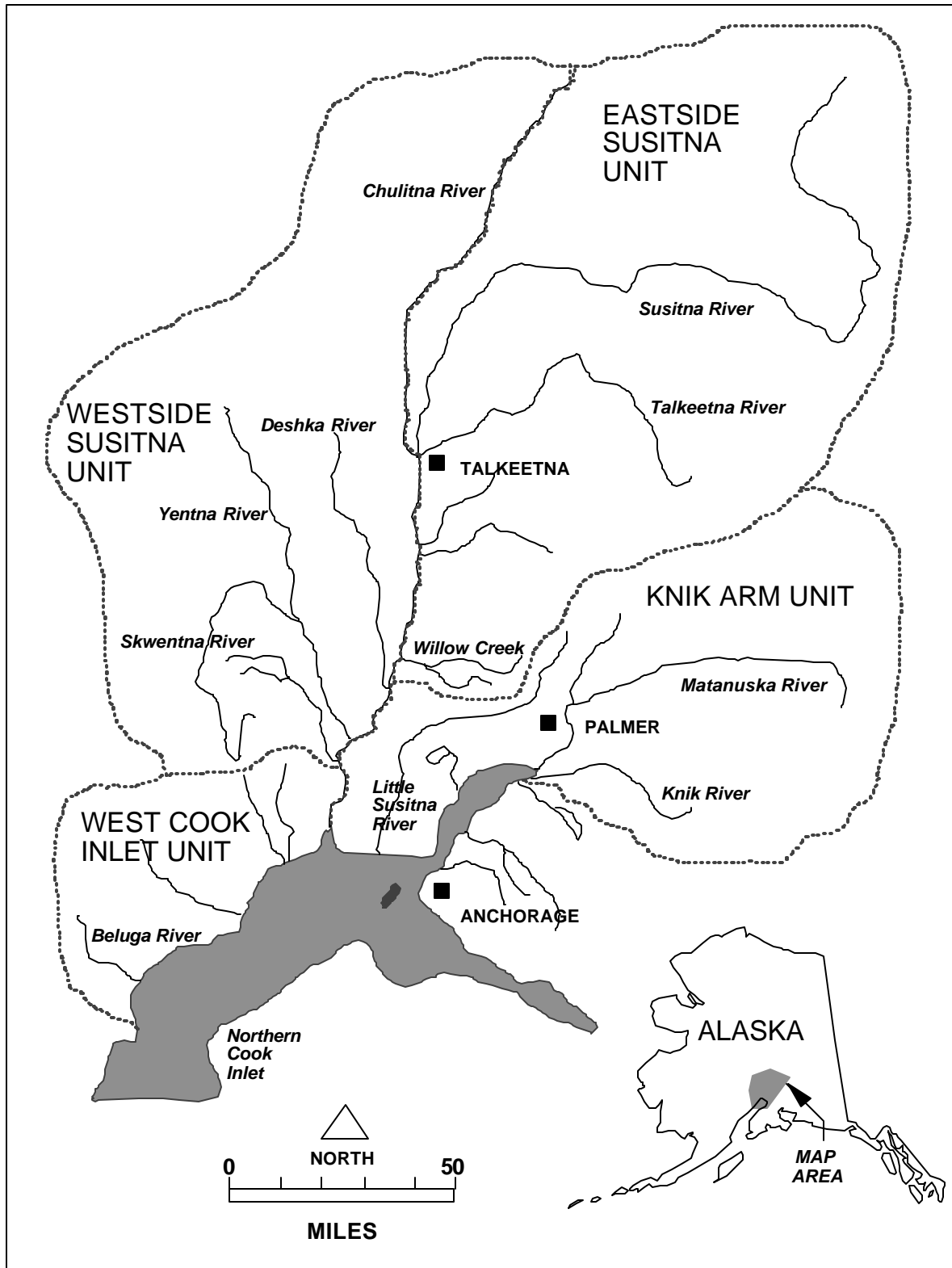


Figure 1.-The Northern Cook Inlet sport fish management area.

for management purposes, eastside drainages of the Susitna River within a half mile of the Susitna River downstream of Willow Creek. This management unit has no marine waters.

4. West Cook Inlet Unit: Beginning in 1999 this unit includes all freshwater drainages entering Cook Inlet between the Susitna River and the latitude of the southern tip of Chisik Island, and all adjacent marine waters of Cook Inlet. Prior to 1999 this unit included all freshwater drainages entering Cook Inlet between the Susitna River and the West Forelands, and all adjacent marine waters of Cook Inlet.

In terms of political geography, the major portion of this management area is very similar to the boundaries of the Matanuska-Susitna Borough; additionally the West Cook Inlet Unit extends into the Kenai Peninsula Borough. About 60% of the state's population resides within or immediately adjacent to the management area. Major communities within the management area include Wasilla, Palmer, Talkeetna, Willow, and Houston. Smaller communities in the management area include Tyonek, Sutton, Chickaloon, and Skwentna. The Municipality of Anchorage, Alaska's largest community, borders the management area. Although much of Alaska's population resides in or near the NCIMA, it is important to note that much of the management area is either sparsely populated or uninhabited. The State of Alaska is the principal land manager in the NCIMA. Other significant land managers include the Matanuska-Susitna (Mat-Su) Borough, Kenai Peninsula Borough, various native corporations and villages, and the federal government.

Management and research functions for the NCIMA are conducted from the Alaska Department of Fish and Game (ADF&G) Palmer area office. The Division of Sport Fish staff stationed in Palmer include a permanent full-time Fishery Biologist III Area Management Biologist (David Rutz), a permanent full-time Fishery Biologist III Area Research Biologist (Richard Yanusz), Assistant Area Management Biologist (Dana Sweet), Lakes Specialist (Craig Baer), Access Coordinator (Richard Price), two permanent full-time Fishery Biologist II Research Biologists (Suzanne Hayes and Thomas Namtvedt) and one permanent-seasonal Fishery Biologist I (Sam Ivey). One permanent full-time Administrative Assistant III (Nancy Deslauriers) and an Administrative Assistant II (Annette Oels) are shared with the Division of Wildlife Conservation staff. These positions are assisted by approximately 30 permanent-seasonal Fishery Biologists and Fish and Wildlife Technicians who act as crew leaders and staff for area research and management projects. Significant support is also provided to the area staff from the Sport Fish Division's Southcentral Region Research and Technical Services (RTS) staff. A regional maintenance mechanic (Doug Miller) performs maintenance services for the Southcentral region from a shop located in Palmer.

FISHERIES RESOURCE INVENTORY

Sport anglers fishing NCIMA waters can target all five species of North American Pacific salmon (pink *Oncorhynchus gorbuscha*, coho *O. kisutch*, sockeye *O. nerka*, chum *O. keta*, and chinook *O. tshawytscha*) in both fresh and salt water. In addition, there are major fisheries for rainbow trout *O. mykiss*, Dolly Varden *Salvelinus malma*, Arctic char *Salvelinus alpinus*, and Arctic grayling *Thymallus arcticus*; as well as for lake trout *Salvelinus namaycush*, northern pike *Esox lucius*, burbot *Lota lota*, whitefish *Coregonus* and *Prosopium*, landlocked salmon *Oncorhynchus*, and eulachon *Thaleichthys pacificus*.

DIVISION OF SPORT FISH STRATEGIC PLAN

In 2002 the Division of Sport Fish finalized a strategic plan (ADF&G 2002). This plan is the guiding document for the Division. It highlights key issues currently facing the division and guides division leaders in their decision making. The plan is also used to communicate internally as well as with the public about the most important issues facing the division and the management of Alaska's recreational fisheries. In the future issues and strategic directions will be added, deleted, or modified as necessary. Annual work plans and budget submissions will be linked to this plan based on regional needs and priorities.

ALASKA BOARD OF FISHERIES ACTIVITIES

The waters of the NCIMA fall within two sport fishing regulatory areas: the Susitna/West Cook Inlet Regulatory Area and the Cook Inlet/Resurrection Bay Salt Water Regulatory Area. Regulations governing the sport fisheries of the Susitna/West Cook Inlet and the Cook Inlet/Resurrection Bay Salt Water Regulatory Areas are established in Chapters 61 and 58, respectively, of Title 5 of the Alaska Administrative Code. Regulations pertaining to other Cook Inlet fisheries including subsistence (Chapter 01), personal use (Chapter 77), educational permits (Chapter 93), statewide provisions (Chapter 75) and commercial fisheries (Chapter 21) are also contained in Title 5 of the Alaska Administrative Code.

The process of developing fishing regulations appropriate for fisheries in the NCIMA occurs within the established Alaska Board of Fisheries (BOF) process. Public input concerning regulation changes and allocation issues is provided for in this process through various means including submission of proposals, direct testimony to the BOF, and/or participation in local fish and game advisory committees. Advisory committees have been established throughout Alaska to assist the Boards of Fisheries and Game in assessing fisheries and wildlife issues and proposed regulations. Active committees meet several times each year. Staff from the Division of Sport Fish and other divisions are often invited to attend the committee meetings. In this way, advisory committee meetings allow for direct public interaction with staff involved with resource issues of local concern. Within the NCIMA there are four Fish and Game Advisory Committees: Denali, Matanuska, Tyonek and Mt. Yenlo (Appendix M2). Staff also have significant interaction with the Anchorage Advisory Committee which is outside, but bordering, the NCIMA. Under the current operating schedule the BOF meets on a 3-year cycle. Proposals regarding the NCIMA finfish species were addressed most recently in February 2002. The next regularly-scheduled BOF meeting to address NCI issues is scheduled for January 2005. Appendix F provides a summary of BOF regulatory actions.

EXISTING MANAGEMENT PLANS

Upper Cook Inlet fisheries have been the focus of intensive allocation battles for many years. These conflicts have led the BOF to establish numerous management plans and policies to guide the area's fisheries. These plans attempt to assure sustained yield of the area's fish resources, as well as establishing allocations, management actions and guidelines.

There are presently 12 management plans or policies which the BOF has adopted that impact NCIMA fisheries. These are:

1. Upper Cook Inlet Salmon Management Plan (5 AAC 21.363).

2. Northern District King Salmon Management Plan (5 AAC 21.366).
3. Fish Creek Sockeye Salmon Management Plan (5 AAC 21.364), *repealed in 2002*.
4. Big River Sockeye Salmon Management Plan (5 AAC 21.368).
5. Little Susitna River Coho Salmon Management Plan (5 AAC 61.060).
6. Criteria for Establishing Special Management for Trout (5 AAC 75.013).
7. Packers Creek Sockeye Salmon Management Plan (5 AAC 21.370).
8. Northern District Salmon Management Plan (5 AAC 21.358).
9. Upper Cook Inlet Personal Use Salmon Fishery Management Plan (5 AAC 77.540).
10. Upper Yentna River Subsistence Salmon Fishery (5 AAC 01.593).
11. Tyonek Subsistence Fishery (5 AAC 01.560 (b) (1)).
12. Cook Inlet Pink Salmon Management Plan (5 AAC 21.365).

The Upper Cook Inlet Salmon Management Plan (5 AAC 21.363) (UCISMP) provides long-term direction to the Board for allocation and conservation of fisheries involving Upper Cook Inlet (UCI) salmon stocks. The plan defines UCI salmon stocks as those that move through the Northern and Central Districts and spawn in waters draining into those districts. Various “step down” management plans relate to the Upper Cook Inlet Salmon Management Plan and provide specific direction to fishery managers regarding user groups, time, area or species.

The Upper Cook Inlet Salmon Management Plan established the following provisions for the management and conservation of UCI salmon stocks:

1. Provide for a subsistence priority.
2. Harvest of UCI salmon will be governed by specific and comprehensive management plans.
3. In adopting these plans the following will be considered: need for subsistence, protection of fisheries habitat, and the needs and demands of user groups.
4. The management plans may address: the need to allocate harvestable surplus among commercial, sport, guided sport and personal use fisheries and the need to allocate the harvestable surplus within user groups.
5. In the absence of a specific management plan salmon shall be harvested in the fisheries that have historically harvested them.
6. In the absence of a specific management plan the burden of conservation shall be shared among all user groups in close proportion to their respective harvest.

Included in the UCISMP are eight guiding principals to assist the Board of Fisheries when taking actions associated with adoption of regulations regarding upper Cook Inlet salmon stocks. These principles are:

1. Conservation and sustained yield of healthy salmon resources and maintenance of the habitat and ecosystem on which salmon and allied species depend for survival throughout their life-cycle.

2. Maintenance of viable and diverse fish species and stocks.
3. Maintenance of the genetic diversity of fish species and stocks.
4. Presentation to the Board of the best available information.
5. Proposed actions should be capable of being implemented and evaluated. This consideration includes factors such as flexible and adaptive management, conflict with other law and mixed-stock management.
6. Proposed actions should provide tangible benefits to user groups or conservation, with the least risk to existing fisheries and to conservation.
7. Maintenance of the stability and viability of sport, commercial and personal use fisheries.
8. Use a precautionary approach in a manner consistent with the degree of uncertainty regarding the status and biology of the resource.

The Tyonek Subsistence Fishery (5 AAC 01.560) is an important component of the Upper Cook Inlet Salmon Management Plan. This fishery provides subsistence fishing opportunity primarily to residents of the village of Tyonek. Fish harvested in this fishery are bound for NCIMA. Specific fishing periods occur from May 15 through October 15. A 4,200 chinook salmon harvest quota has regulated this fishery since 1980.

The Northern District King Salmon Management Plan (5 AAC 21.366) was adopted in 1985 by the BOF. This plan provides for the management of the commercial harvest of chinook salmon in the Northern District as follows.

1. The season runs from the first Monday on or after May 25 through June 24; three periods will be allowed unless closed earlier by emergency order.
2. Fishing periods are 7:00 a.m. to 1:00 p.m. on Mondays.
3. Harvest shall not exceed 12,500.
4. Set gillnets may not exceed 35 fathoms in length and 6 inches in mesh size.
5. No Commercial Fisheries Entry Commission (CFEC) permit holder may operate more than one set gillnet at a time.
6. No net shall be set within 1,200 feet of another.
7. No net shall be placed seaward of another.
8. May 25 through June 24 the area from 1 mile south of the Theodore River to the Susitna River is open the second regular Monday only.
9. If the Theodore, Lewis or Ivan River is closed to sport fishing, the area 1 mile south of the Theodore River to the Susitna River will be closed to commercial king fishing for the remainder of the season by emergency order.
10. If the Deshka River is closed to sport fishing the commercial king salmon fishery throughout the Northern District will close for the remainder of the season by emergency order.

11. If the Chuitna River is closed to sport fishing the area from 1 mile south of the Chuitna River to the Susitna River will be closed to commercial king fishing by emergency order for the remainder of the season.

The Fish Creek Sockeye Salmon Management Plan (5 AAC 21.364) was adopted by the BOF in 1985 and modified in 1996 and repealed in 2002. This plan governed the harvest of Fish Creek sockeye salmon in excess of the system's 50,000 fish escapement goal. It provided for a terminal set gillnet commercial fishery in Knik Arm near the mouth of Fish Creek July 15 through July 26. This fishery was closed by the BOF for the 1999 through 2001 seasons. During the scheduled BOF meeting in 2002 this management plan was repealed.

The Big River Sockeye Salmon Management Plan (5 AAC 21.368) authorizes a harvest of Big River salmon by set gillnets in the Kustatan Subdistrict of the Central District. Sockeye salmon is the targeted species. This fishery extends from June 1 through June 24, on Monday, Wednesday and Friday from 7:00 a.m. to 7:00 p.m. It is subject to emergency closure when the incidental harvest of chinook salmon exceeds 1,000 fish.

The Little Susitna River Coho Salmon Management Plan (5 AAC 61.060) was adopted by the BOF in 1990 and subsequently modified. The purpose of this plan is to ensure an adequate spawning escapement of coho salmon into the Little Susitna River and provide management guidelines to the department. The escapement goal is set at 10,100-17,700 coho salmon above the Parks Highway Bridge. The management plan also limits tackle to artificial lures from July 14 through August 5 and sets the bag and possession limit to two for coho 16 inches or greater.

The Criteria For Establishing Special Management For Trout (5 AAC 75.013) was adopted by the BOF in November 1996 from the Cook Inlet and Copper River Basin Rainbow/Steelhead Trout Management Policy. These criteria provide future Fisheries Boards, ADF&G managers, and the sport fishing public with the following:

1. Management policies and implementation directives for Cook Inlet rainbow and steelhead trout, and
2. A systematic approach to developing sport fishing regulations that includes a process for rational selection of waters for such special management as catch-and-release, trophy areas and high yield fisheries.

The Packers Creek Sockeye Salmon Management Plan (5 AAC 21.370) directs the department not to base commercial fishing time in the Kalgin Island subdistrict on enhanced run strength of Packers Creek sockeye salmon. The plan limits extra fishing time to no more than one additional fishing period per week.

The Northern District Salmon Management Plan (5 AAC 21.358) provides for the following management guidelines:

1. Minimizes the harvest of coho salmon bound for the Northern District of UCI and provides the department direction for management of salmon stocks.
2. Manage the Northern district commercial salmon fisheries based on abundance of Yentna River sockeye salmon, or other salmon indices, as it deems appropriate.

3. Manage the Northern district commercial salmon fisheries to minimize the incidental take of coho salmon stocks bound for the Northern District.
4. Restricts Central District drift gillnet fishery weekly fishing periods unless late-run sockeye salmon to the Kenai River will be more than 4 million.
5. Personal use fishing with a set gillnet is prohibited in the Northern District.
6. Employ a precautionary approach to chum salmon management.
7. Minimize the harvest of coho salmon by not allowing targeted pink salmon fishing in the Central and Northern districts until a pink salmon management plan is brought to the Board in 2002.
8. Directs the department to conduct habitat assessments to determine loss of riparian habitat by noncommercial fishermen.

The Upper Cook Inlet Personal Use Salmon Fishery Management Plan (5 AAC 77.540) establishes time, area, methods and means for taking salmon for personal use. This plan first went into effect during the 1996 season. Salmon harvest opportunity was established to replace the harvest opportunity previously provided through the Upper Cook Inlet Subsistence Salmon Management Plan which was repealed by the BOF in 1995. The Upper Cook Inlet Personal Use Salmon Fishery Management Plan provides for personal use dip net fisheries in the Kenai and Kasilof rivers and Fish Creek. Additionally, limited personal use gillnet fishing opportunity is provided near the terminus of the Kasilof River.

The Upper Yentna River Subsistence Salmon Fishery (5 AAC 01.593) establishes a subsistence fish wheel fishery for salmon other than king salmon in the Yentna River downstream of its confluence with the Skwentna River to the confluence of Martin Creek. A seasonal limit of 2,500 salmon was set. This fishery was implemented as a personal use fishery during the 1996 and 1997 seasons. State Supreme Court and BOF action changed it to a subsistence fishery beginning in 1998.

The Cook Inlet Pink Salmon Management Plan (5 AAC 21.365) provides for the 2002 and 2004 pink salmon returns to be managed primarily for commercial uses while minimizing the harvest of Northern District and Kenai River coho salmon stocks. A commercial pink fishery is authorized if: pink stocks are sufficient, coho escapement goals in Upper Cook Inlet are being met and sport fishermen will have a reasonable opportunity to harvest coho salmon over the entire coho run, as measured by the frequency of inriver restrictions.

The Salmon Escapement Goal Policy and the Policy for the Management of Sustainable Salmon Fisheries are described in Appendices O1 and O2.

Fisheries for other species not covered by the above management plans or policies are managed to assure sustained yield of the targeted fish stock while assuring the continued, and where possible, the expanded opportunity to participate in the fishery.

Susitna Basin Recreation Rivers Act. In the spring of 1988, the Alaska legislature passed the Recreation Rivers Act (Sec. 41.23.400) and assigned oversight responsibilities related to this act to the Alaska Department of Natural Resources (ADNR). This act established six recreation rivers: Little Susitna River, Deshka River (including Moose and Kroto creeks), Talkeetna River, Lake Creek, Talachulitna River, and Alexander Creek. The legislation was enacted to insure that all state lands and

waters within the six river corridors are maintained and enhanced for recreation and wildlife purposes. A 2-year planning process was completed, which included input from affected individuals, groups, agencies and officials throughout the area. The plan (ADNR 1991) was adopted as ADNR policy in the spring of 1991 following legislative review of the document. Regulations associated with the plan were available for public comment through January 7, 1994. Regulations went into effect for the 1996 season, but no funds have been allocated for enforcement.

RECREATIONAL ANGLER EFFORT

Beginning in 1977, recreational angler effort in the NCIMA has been estimated using the Statewide Harvest Survey (SWHS), a mail survey (Mills 1979-1994, Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003, Jennings et al. *In prep* a, b). This survey estimates the number of angler-days of sport fishing effort expended by recreational anglers fishing Alaskan waters, as well as the harvest and, beginning in 1990, catch (number harvested plus number released) of important sport species. The SWHS is designed to provide estimates of effort, harvest and catch by site and, unfortunately, is not designed to provide estimates of effort directed towards a single species at a site. Additionally, onsite creel surveys have been selectively used for fisheries that require more detailed information or inseason management. The following summary of recreational angler effort in the NCIMA is based on the SWHS data.

The NCIMA is composed of two complete and a portion of a third Statewide Harvest Survey reporting area (Jennings et al. *In prep* b). These areas include: (1) the Knik Arm Drainage Area reporting unit (Area K), (2) the East Susitna River Drainage Area reporting unit (Area M), and (3) the West Cook Inlet-West Susitna River Drainages Area reporting unit (Area N). The West Cook Inlet-West Susitna River Drainages Area presently includes fresh and marine waters between the southern tip of Chisik Island and Cape Douglas, an area outside of the NCIMA. Prior to 2000 waters from the West Forelands to the southern tip of Chisik Island were included in the Kenai Peninsula Management Area; Area N fisheries outside of the NCIMA are not included in this report. During 1999 the SWHS project staff initiated a review and updating of existing programming code. During this review it was discovered that the non-response bias adjustment model had not been applied for prior estimates. Subsequently, SWHS estimates for the years 1996-1998 were revised. The estimates for years 1996-1998 presented herein represent the updated estimates.

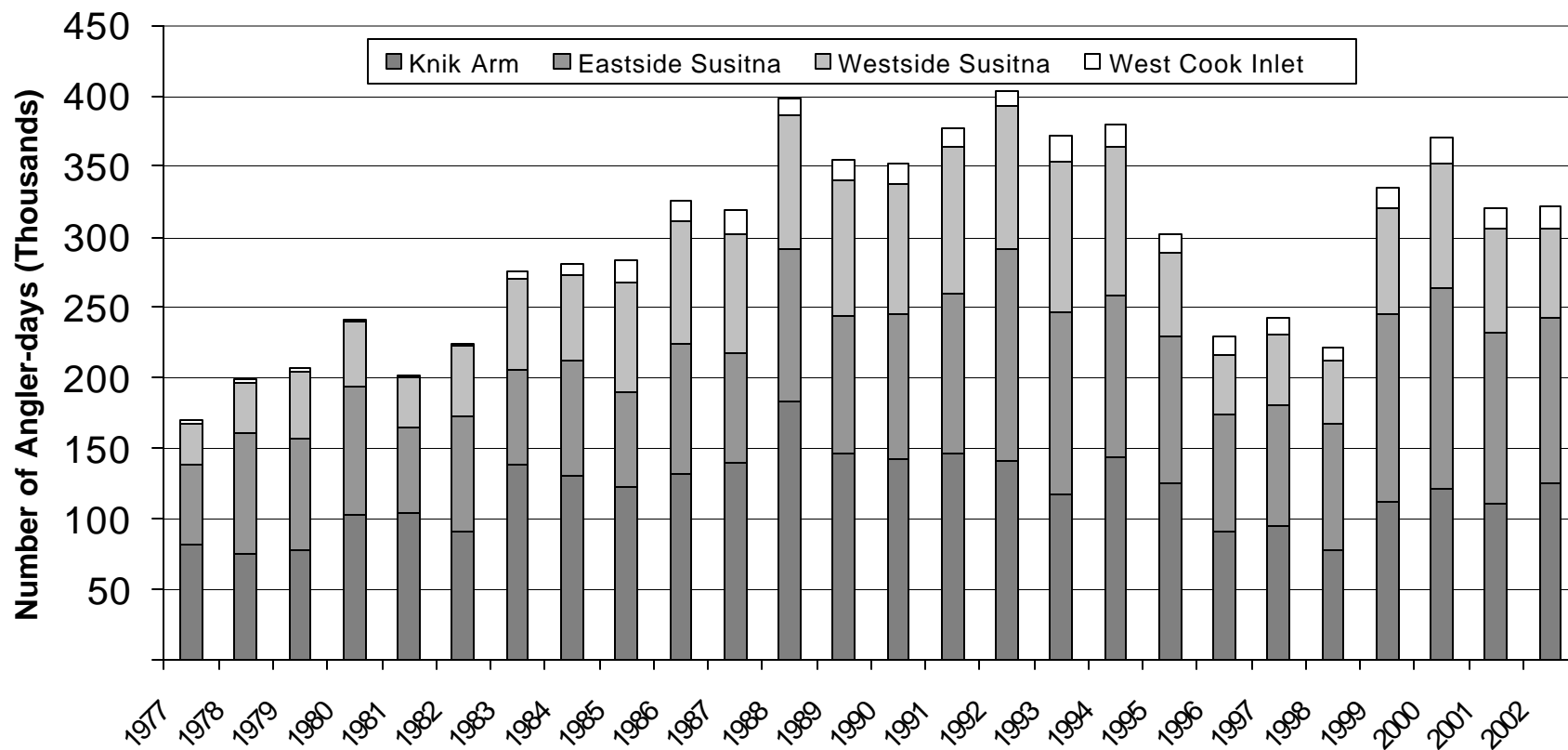
An average of 295,526 angler-days were spent by anglers fishing NCIMA waters from 1977 through 2001 (Table 1). Historically, the effort expended by anglers fishing NCIMA waters has represented an average of 14% of the total statewide and 20% of the Southcentral Region (Region II) angling effort. Angler-effort generally increased annually from 1977 through 1988 (Figure 2), when 398,220 angler-days were documented. During 1988-2001, effort has ranged from 222,182 angler-days (1998) to a record high in 1992 of 403,805 angler-days. The Kenai Peninsula sport fish management area is currently the only management area in Alaska that receives greater use by recreational anglers (Jennings et al. *In prep* b).

During 2002 anglers spent an estimated 322,069 angler-days fishing NCIMA waters. This was above the previous 5-year average. The effort in 2002 represented 14% and 21% of the total statewide and Southcentral region angling effort, respectively (Table 1).

Table 1.-Number of angler-days of sport fishing effort expended by recreational anglers fishing Northern Cook Inlet Management Area waters as estimated by SWHS, 1977-2002.

Year	Knik Arm		Eastside Susitna		Westside Susitna		West Cook Inlet ^a		NCIMA	Alaska	% by	Region II	% by
	Effort	% NCIMA	Effort	% NCIMA	Effort	% NCIMA	Effort	% NCIMA	Total	Total	NCIMA	Total	NCIMA
1977	81,949	48	56,651	33	29,211	17	2,735	2	170,546	1,198,486	14	828,351	21
1978	75,540	38	86,010	43	35,709	18	2,262	1	199,521	1,285,063	16	913,417	22
1979	78,411	38	78,222	38	48,362	23	2,012	1	207,007	1,364,739	15	1,014,018	20
1980	102,530	42	91,277	38	46,768	19	1,357	1	241,932	1,488,962	16	1,072,384	23
1981	105,052	52	59,854	30	35,072	17	2,263	1	202,241	1,420,172	14	1,016,731	20
1982	91,713	41	80,745	36	50,738	23	1,126	1	224,322	1,623,090	14	1,131,358	20
1983	138,389	50	67,471	24	63,919	23	6,237	2	276,016	1,732,528	16	1,212,680	23
1984	130,727	46	81,758	29	61,263	22	7,512	3	281,260	1,866,837	15	1,341,658	21
1985	122,626	43	67,764	24	77,092	27	16,455	6	283,937	1,943,069	15	1,406,419	20
1986	131,606	40	92,289	28	87,736	27	13,537	4	325,168	2,071,412	16	1,518,712	21
1987	140,167	44	77,817	24	84,448	26	16,247	5	318,679	2,152,886	15	1,556,050	20
1988	183,029	46	107,977	27	95,339	24	11,875	3	398,220	2,311,291	17	1,679,939	24
1989	146,912	41	96,864	27	96,308	27	14,851	4	354,935	2,264,079	16	1,583,381	22
1990	142,884	41	101,917	29	92,435	26	14,392	4	351,628	2,453,284	14	1,745,110	20
1991	146,605	39	113,178	30	104,072	28	13,336	4	377,191	2,456,328	15	1,782,055	21
1992	141,825	35	149,484	37	101,496	25	11,000	3	403,805	2,540,374	16	1,889,930	21
1993	118,214	32	128,382	35	106,724	29	17,993	5	371,313	2,559,408	15	1,867,233	20
1994	143,372	38	114,533	30	106,112	28	15,950	4	379,967	2,719,911	14	1,966,985	19
1995	126,154	42	102,686	34	60,177	20	12,557	4	301,574	2,787,670	11	1,985,539	15
1996	90,990	40	83,227	36	42,717	19	12,146	5	229,080	2,733,008	8	1,948,892	12
1997	95,730	39	85,228	35	50,366	21	11,218	5	242,542	2,654,454	9	1,803,564	13
1998	78,218	35	89,014	40	44,931	20	10,019	5	222,182	2,153,992	10	1,465,738	15
1999	112,642	34	133,310	40	74,374	22	14,402	4	334,728	2,499,152	13	1,659,966	20
2000	121,601	33	141,609	38	88,503	24	18,483	5	370,196	2,627,805	14	1,844,824	20
2001	111,027	35	121,039	38	73,885	23	14,205	4	320,156	2,261,941	14	1,560,562	21
Mean	118,317	40	96,332	33	70,310	24	10,567	4	295,526	2,126,798	14	1,511,820	20
97-01													
Mean	103,844	35	114,040	38	66,412	22	13,665	5	297,961	2,439,469	12	1,666,931	18
2002	126,194	39	116,254	36	63,286	20	16,335	5	322,069	2,259,091	14	1,569,513	21

^a Data include saltwater effort from outside the NCIMA as reported in the SWHS.



Source: SWHS, Mills 1979-1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. *In prep* a, b.

Figure 2.-Angler-days of sport fishing effort expended by recreational anglers fishing Northern Cook Inlet Management Area waters, 1977-2002.

Forty percent of the total effort from the NCIMA has historically occurred in the Knik Arm Management Unit (Table 1). From 1977 through 2001, these waters supported an average of 103,844 angler-days of fishing effort. A record number of angler-days (183,029) were expended during 1988. Nearly all of the effort over this period was expended in fresh water (Table 2). The Little Susitna River is the most heavily fished stream in the Knik Arm Management Unit, averaging 35,023 angler-days of effort for the period 1977-2001 (Table 2, Figure 3). Other major fisheries occur in the many stocked lakes in the basin (notably in Finger Lake and the Kepler Lake complex) and at various road-accessible streams including Knik River tributaries, the Eklutna Power Plant tailrace, Big Lake drainage, and Cottonwood and Wasilla creeks (Table 2, Figure 3). A limited saltwater fishery also occurs off the mouth of Fish Creek in Knik Arm (Table 2).

Anglers fishing the Eastside Susitna Management Unit from 1977 through 2001 expended an average of 96,332 angler-days (Table 1). This expenditure of effort has represented an average of 33% of the total sport effort from all NCIMA waters during this time period. A total of 116,254 angler-days was spent in this area during 2002, well above the previous 5-year average. Major fisheries occur in Willow, Montana, Sheep, and Little Willow creeks, and the Talkeetna River and its various tributaries (Table 3, Figure 4).

Anglers fishing the Westside Susitna Management Unit from 1977 through 2001 expended an average of 70,310 angler-days (Table 1). This expenditure of effort has represented an average of 24% of the total effort from all NCIMA waters during this time period. A total of 63,286 angler-days occurred during 2002, a slight decrease from the previous 5-year average. Major fisheries occur in the Deshka River, Alexander Creek, and the Yentna River including Lake Creek (Table 4, Figure 5). Other fisheries occur in numerous remote lakes in the area (Table 4, Figure 5).

From 1977 through 2001 anglers fishing West Cook Inlet Management Unit waters expended an average of 10,567 angler-days (Table 1). This expenditure of effort represents an average of 4% of the total effort from all NCIMA waters during this time period. A total of 16,335 angler-days occurred during 2002. Major fisheries include the Chuitna, Theodore and Kustatan rivers (Table 5, Figure 6).

RECREATIONAL FISH HARVEST

From 1977 through 2001, an average of 208,223 fish were caught and kept (harvested) by anglers fishing NCIMA waters (Tables 6 and 7, Figure 7). Coho salmon, rainbow trout and chinook salmon accounted for more than half of this average harvest (Figure 8).

On average, fish from the Knik Management Unit accounted for 43% of fish caught and kept within the NCIMA during 1977-2001 (Table 6). Rainbow trout, coho salmon and landlocked salmon dominated the harvest (Table 8). The Eastside Susitna and Westside Susitna units accounted for 28% and 24% of the NCIMA harvest during this time period, respectively, with chinook salmon, coho salmon, pink salmon, rainbow trout and Arctic grayling dominating harvests (Tables 9 and 10). The West Cook Inlet Unit accounted for only 5% of the NCIMA harvest, with chinook and coho salmon accounting for the majority of the WCI harvest (Table 11).

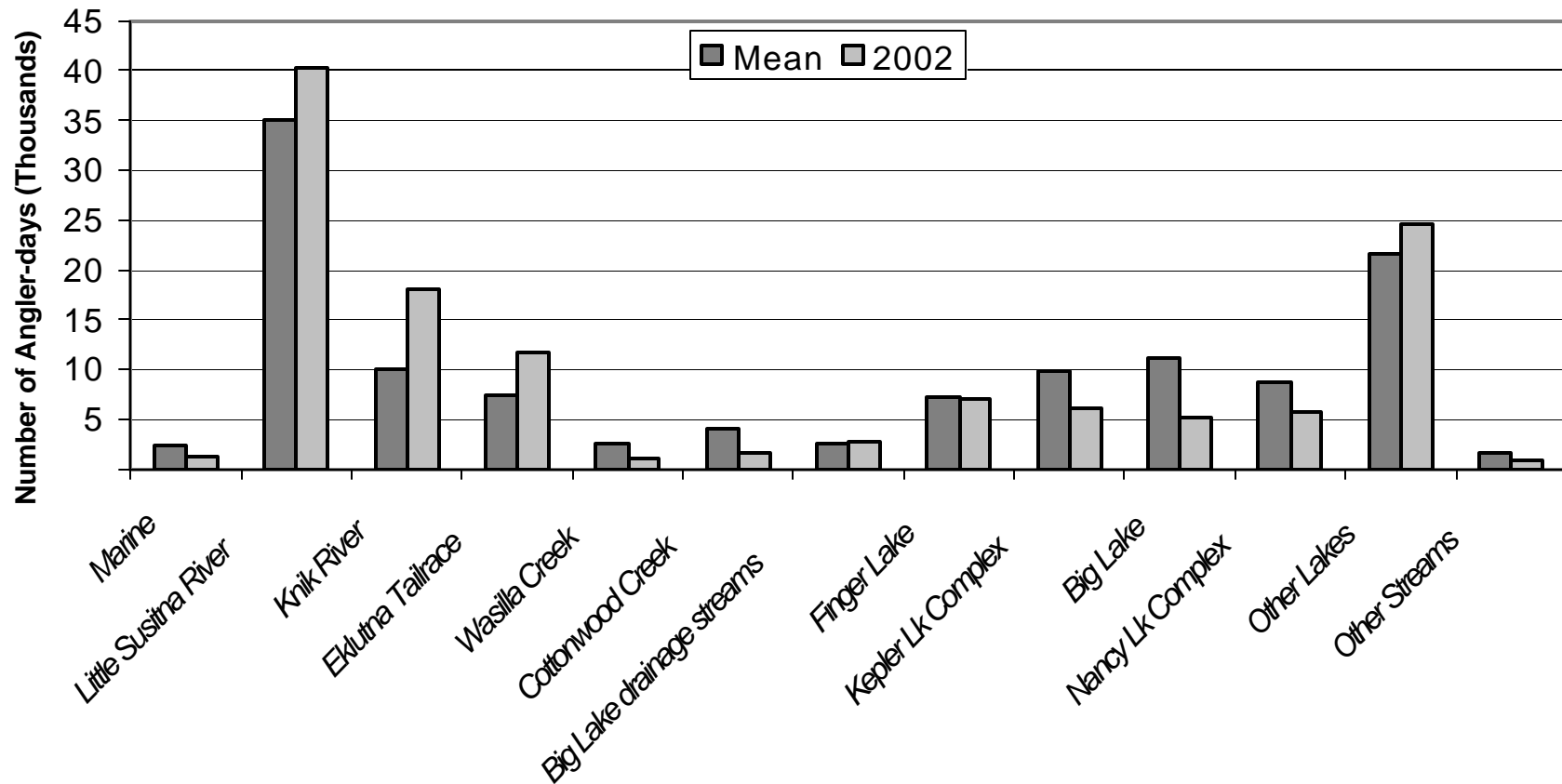
The 1977-2002 NCIMA harvest and catch by fishery of all species are listed in Appendix A.

Table 2.-Angler-days of sport fishing effort for the Knik Arm drainage by fishery as estimated by SWHS, 1977-2002.

Year	Marine	Little Susitna River	Knik ^a River	Eklutna Tailrace	Wasilla Creek	Cottonwood Creek	Big Lake drainage streams	Finger Lake	Kepler Lk Complex	Big Lake	Nancy Lk Complex	Other ^b Lakes	Other Streams	Total
1977		11,063			2,805			14,864	7,962	11,869	7,259	26,127		81,949
1978		12,127			3,446			11,502	5,730	9,865	7,647	25,223		75,540
1979		21,301			4,024	5,345		4,433	5,439	8,300	7,011	22,558		78,411
1980		22,420			5,726	9,268		6,483	8,597	12,195	9,153	28,688		102,530
1981		26,162	4,904		4,019	8,663		5,267	8,227	14,568	8,488	24,754		105,052
1982		24,020	6,653		6,261	5,186		3,514	6,943	15,371	8,615	15,150		91,713
1983	17,127	35,477	9,183		3,239	5,944		8,512	9,149	15,989	10,907	19,571	3,291	138,389
1984	4,316	48,517	9,369	3,413	3,547	7,144		6,843	9,770	12,916	7,194	15,892	1,806	130,727
1985	692	41,643	8,970	2,995	3,115	4,560	903	4,259	9,226	16,299	5,960	22,243	1,761	122,626
1986	983	45,770	13,015	8,549	3,387	5,653	2,641	5,589	9,544	14,559	6,520	13,147	2,249	131,606
1987	1,974	35,659	6,990	11,663	2,173	2,934	2,898	10,830	14,379	17,693	15,125	16,187	1,662	140,167
1988	1,239	49,731	23,229	13,188	2,228	4,056	3,110	8,240	18,245	10,077	12,099	35,159	2,428	183,029
1989	2,352	54,798	11,141	10,342	2,406	3,069	4,204	4,840	12,821	12,748	8,349	19,024	818	146,912
1990	2,494	40,159	17,878	7,618	2,679	3,056	3,936	6,737	13,644	11,798	9,973	19,949	2,963	142,884
1991	3,147	50,838	13,736	5,892	2,893	1,623	3,693	5,998	11,337	13,759	10,239	20,043	3,407	146,605
1992	1,540	49,304	8,856	4,279	1,110	1,974	4,534	5,506	15,556	11,545	12,299	24,723	599	141,825
1993	2,116	42,249	6,824	4,523	1,774	3,077	2,976	7,843	7,461	8,446	9,393	20,606	926	118,214
1994	1,244	45,149	9,658	8,974	2,226	3,230	3,496	9,434	11,832	9,987	10,197	25,063	2,882	143,372
1995	940	41,119	10,893	11,453	1,373	2,598	2,256	7,814	10,885	6,979	9,723	18,928	1,193	126,154
1996	966	24,575	7,561	6,448	1,386	1,783	934	8,962	7,431	7,290	5,140	17,464	1,050	90,990
1997	672	27,883	5,349	3,835	1,188	2,070	1,104	7,242	8,139	9,644	7,275	19,944	1,385	95,730
1998	952	22,108	5,272	5,100	1,171	3,454	2,256	4,286	6,500	6,143	4,861	15,729	386	78,218
1999	250	30,437	6,860	6,150	990	3,506	2,182	8,076	9,149	8,418	7,899	26,981	1,744	112,642
2000	447	39,556	10,975	7,938	328	1,265	1,408	7,786	8,708	7,587	8,670	25,519	1,414	121,601
2001	622	33,521	13,028	10,166	419	2,627	1,670	6,902	8,439	5,555	6,789	20,831	458	111,027
Mean	2,320	35,023	10,016	7,363	2,557	4,004	2,600	7,270	9,805	11,184	8,671	21,580	1,706	118,317
97-01 Mean	589	30,701	8,297	6,638	819	2,584	1,724	6,858	8,187	7,469	7,099	21,801	1,077	103,844
2002	1,218	40,346	17,989	11,767	1,037	1,534	2,776	7,094	6,108	5,176	5,659	24,612	878	126,194

^a Knik River and tributaries including Jim Creek.

^b Includes effort for lakes and streams, 1977-1982.



Source: SWHS, Mills 1979-1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. *In prep* a, b.

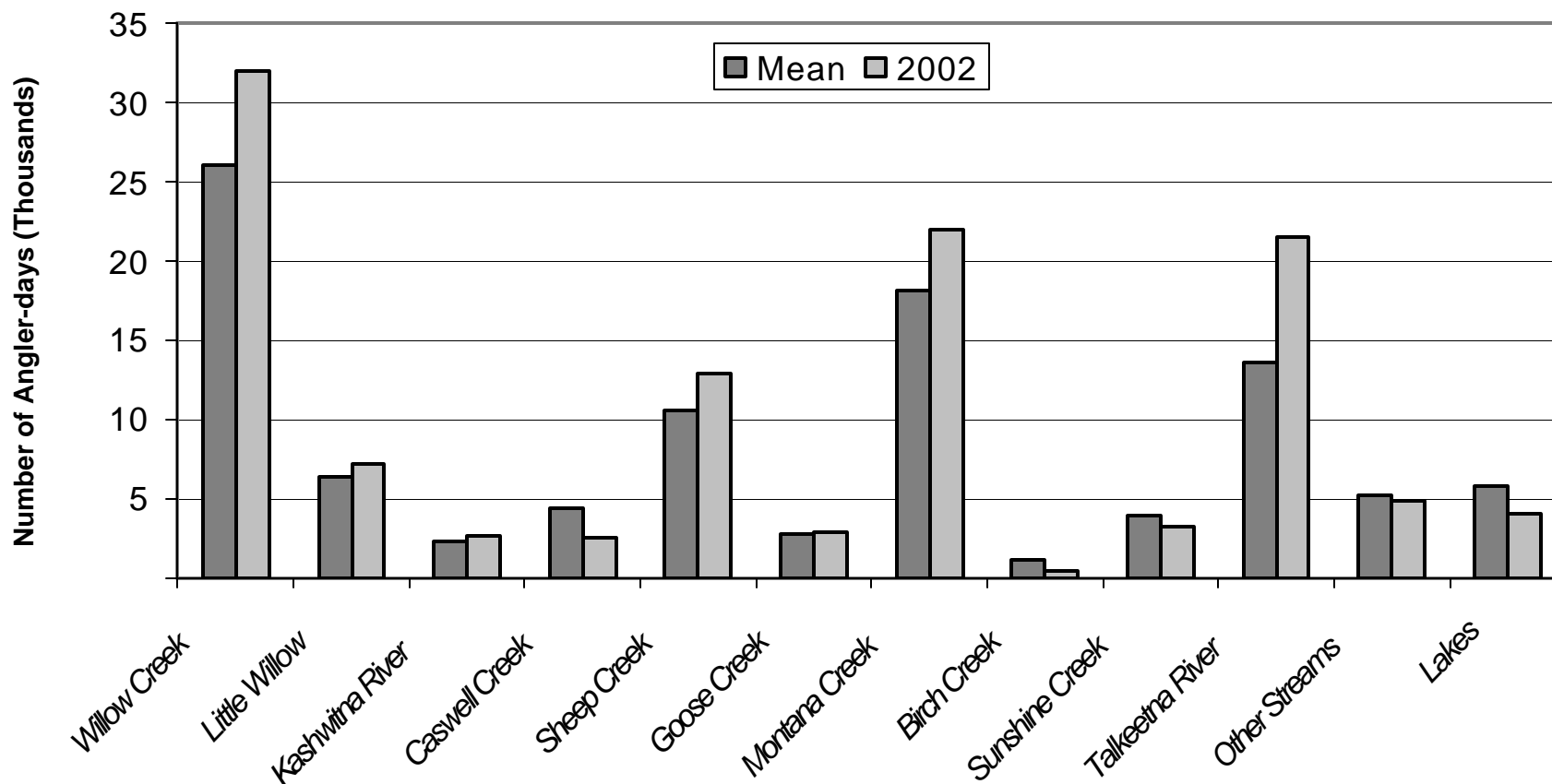
Figure 3.-Mean number of angler-days per year of sport fishing effort expended at sites in the Knik Arm management unit, 1977-2001, and effort expended in 2002.

Table 3.-Angler-days of sport fishing effort for the Eastside Susitna River drainage by fishery as estimated by SWHS, 1977-2002.

Year	Willow Creek	Little Willow	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna ^a River	Other Streams	^b Lakes	Total
1977	14,024	4,583			8,112		14,268			3,163		12,501	56,651
1978	22,682	5,687			11,869		25,762			5,040		14,970	86,010
1979	18,911	5,171		3,710	6,728		22,621		3,317	5,125		12,639	78,222
1980	29,011	8,190		4,963	8,014		19,287		5,208	4,388		12,216	91,277
1981	14,060	3,845		3,860	6,936		16,657		3,062	3,584		7,850	59,854
1982	19,704	5,579		5,101	9,093		23,645		3,787	3,856		9,980	80,745
1983	13,405	2,791	1,344	5,048	6,237		17,109		3,429	7,564	5,460	5,084	67,471
1984	21,649	5,872	2,995	4,952	6,106	1,305	19,239		3,229	9,252	4,417	2,742	81,758
1985	16,282	5,705		5,289	2,844		20,028		4,144	7,213	4,162	2,097	67,764
1986	10,733	4,490	2,908	4,362	10,091	1,993	20,268	2,010	8,124	8,638	10,566	8,106	92,289
1987	13,583	5,850	2,717	3,332	9,019	1,865	13,745	2,046	3,912	17,096	2,101	2,551	77,817
1988	27,758	10,768	1,454	4,529	18,699	2,947	16,498	2,074	4,129	12,733	3,648	2,740	107,977
1989	23,811	5,285	6,320	4,029	13,010	3,058	16,179	767	4,592	15,218	1,907	2,688	96,864
1990	32,200	6,505	2,313	6,103	11,392	3,714	11,284		4,485	18,299	3,287	2,335	101,917
1991	32,520	7,792	1,981	7,816	14,872	2,811	10,745	1,056	5,788	18,466	6,172	3,159	113,178
1992	50,958	9,240	2,177	6,391	17,509	4,908	18,437	1,366	4,833	21,478	6,347	5,840	149,484
1993	41,218	6,422	1,600	5,033	12,636	3,423	21,615	655	4,094	22,580	5,161	3,945	128,382
1994	34,362	6,744	1,957	5,842	11,526	3,300	16,220	1,092	4,265	18,642	6,134	4,449	114,533
1995	29,392	6,386	1,460	3,912	9,758	1,993	16,303	826	2,756	19,358	6,019	4,523	102,686
1996	23,508	5,890	1,140	1,473	8,112	1,796	13,485	506	3,028	18,386	2,907	2,996	83,227
1997	21,511	5,829	1,916	1,317	9,172	3,151	14,111	525	1,585	18,133	3,765	4,213	85,228
1998	23,920	4,987	1,663	2,983	9,716	2,510	14,952	1,063	2,374	16,713	5,130	3,003	89,014
1999	37,384	8,596	2,004	2,764	17,188	3,561	22,382	1,226	3,805	21,988	7,299	5,113	133,310
2000	44,648	9,028	2,331	4,385	12,660	3,266	26,070	1,426	5,487	21,324	5,744	5,240	141,609
2001	34,979	7,059	2,320	2,637	11,742	2,339	22,454	1,065	1,955	21,590	8,440	4,459	121,039
Mean	26,089	6,332	2,256	4,340	10,522	2,820	18,135	1,180	3,973	13,593	5,193	5,818	96,332
97-01													
Mean	32,488	7,100	2,047	2,817	12,096	2,965	19,994	1,061	3,041	19,950	6,076	4,406	114,040
2002	31,997	7,189	2,648	2,562	12,853	2,845	22,008	446	3,192	21,548	4,870	4,096	116,254

^a Talkeetna River and tributaries including Clear Creek.

^b Includes effort for lakes and streams, 1977-1982.



Source: SWHS, Mills 1979-1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. *In prep* a, b.

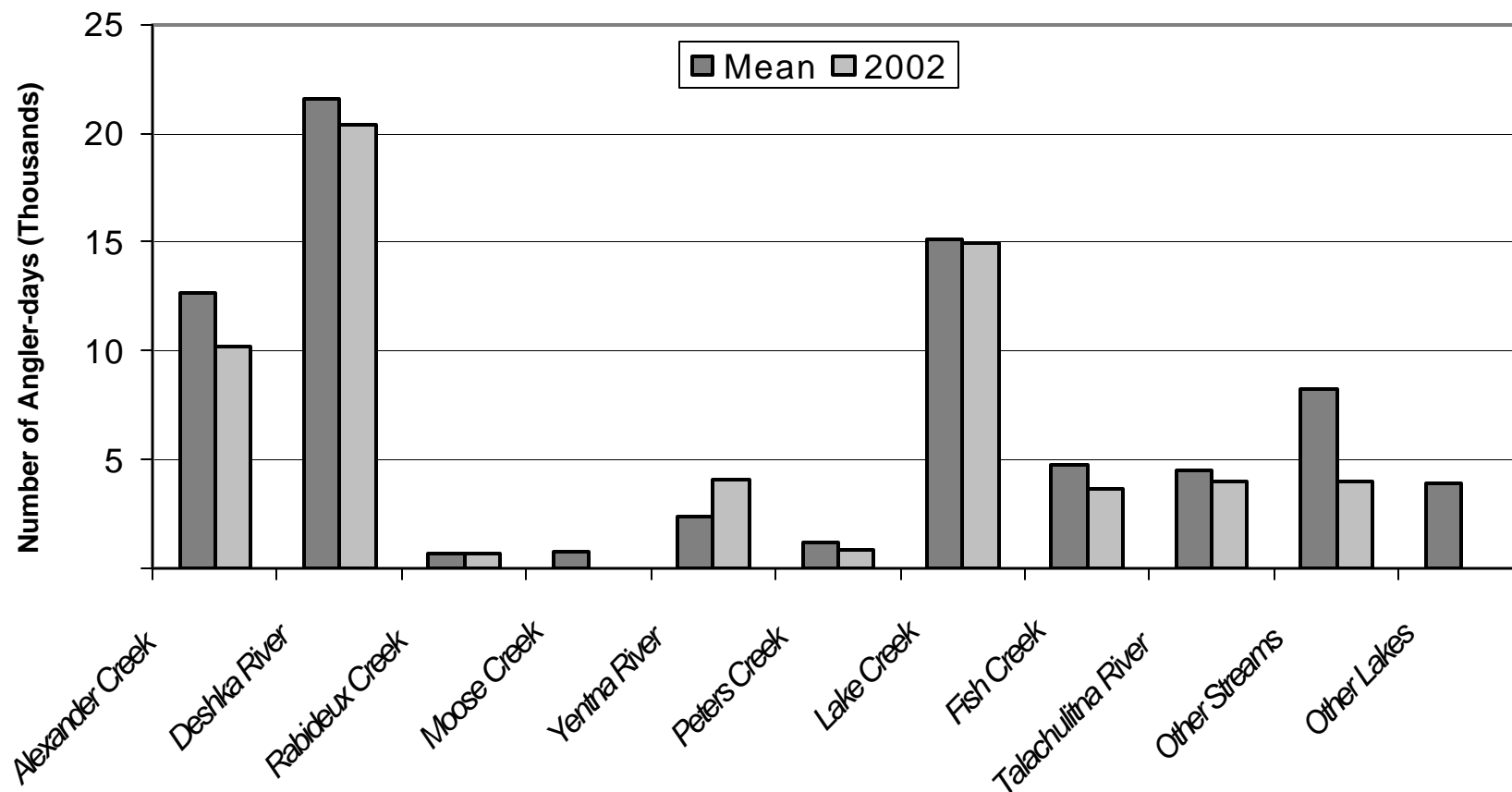
Figure 4.-Mean number of angler-days per year of sport fishing effort expended at sites in the Eastside Susitna River management unit, 1977-2001, and effort expended in 2002.

Table 4.-Angler-days of sport fishing effort for the Westside Susitna River drainage by fishery as estimated by SWHS, 1977-2002.

Year	Alexander Creek	Deshka River	Rabideux Creek	Moose Creek	Yentna River	Peters Creek	Lake Creek	Fish Creek ^a	Talachulitna River	Judd Lake	Shell Lake	Whiskey Lake	Hewitt Lake	Other Streams ^b	Other Lakes ^b	Total
1977	5,991	3,852					6,946		1,342	317	566	287	436	7,269	2,205	29,211
1978	6,914	9,111					8,767		732	151	302	129	172	6,011	3,420	35,709
1979	8,284	13,236					13,881		2,185	519	263	189	613	7,577	1,615	48,362
1980	6,812	19,364					8,325		2,542	814	414	29	471	4,998	2,999	46,768
1981	6,892	13,248					6,471		1,378					4,963	2,120	35,072
1982	10,748	18,391					8,649		1,911		444	171		7,012	3,412	50,738
1983	9,425	23,174					14,749		4,566	155	913			6,284	4,653	63,919
1984	7,261	20,561				786	14,739		3,848	1,255				9,652	3,161	61,263
1985	12,884	29,322					14,323		1,682					13,159	5,722	77,092
1986	19,113	29,739		1,193			15,626	3,838	2,186	963				13,753	1,325	87,736
1987	13,220	30,008					16,842	6,918	3,242	2,698				9,571	1,949	84,448
1988	19,591	32,160				2,001	16,007	5,784	8,040	588				8,047	3,121	95,339
1989	14,651	39,432	550	345	656	914	14,061	8,035	8,698	400				5,565	3,001	96,308
1990	19,863	32,082	1,024		849	1,318	17,914	4,857	5,184					5,430	3,914	92,435
1991	26,235	38,011	459		1,003	2,466	14,726	3,820	6,589	544				6,560	3,659	104,072
1992	18,085	37,056	992		1,985	2,198	16,869	3,873	5,153				800	9,586	4,899	101,496
1993	21,660	30,643			2,110	1,263	26,113	6,454	5,613					10,587	2,281	106,724
1994	25,608	19,267			3,936	1,195	27,958	7,011	7,292					10,113	3,732	106,112
1995	10,648	4,808			2,728	1,465	15,808	4,729	6,354					10,790	2,847	60,177
1996	6,062	5,246			1,293	981	12,091	2,158	5,151					9,735		42,717
1997	7,514	5,110			1,760	606	16,033	3,028	5,651					10,664		50,366
1998	6,538	11,574			889		11,260	2,618	3,224					8,828		44,931
1999	11,187	20,088			3,259	536	17,991	5,107	7,680					8,526		74,374
2000	11,733	30,997			5,474	1,057	21,671	3,850	6,415					7,306		88,503
2001	9,360	23,734	417		5,035	396	20,559	4,026	5,813					4,429	116	73,885
Mean	12,651	21,609	688	769	2,383	1,227	15,135	4,757	4,499	764	484	161	498	8,257	3,008	70,310
97-01 Mean	9,266	18,301	417		3,283	649	17,503	3,726	5,757					7,951	116	66,412
2002	10,169	20,362	737		4,091	853	14,933	3,672	3,995					4,010	464	63,286

^a Fish Lake drainage (Yentna River drainage).

^b May include effort from West Cook Inlet drainage waters.

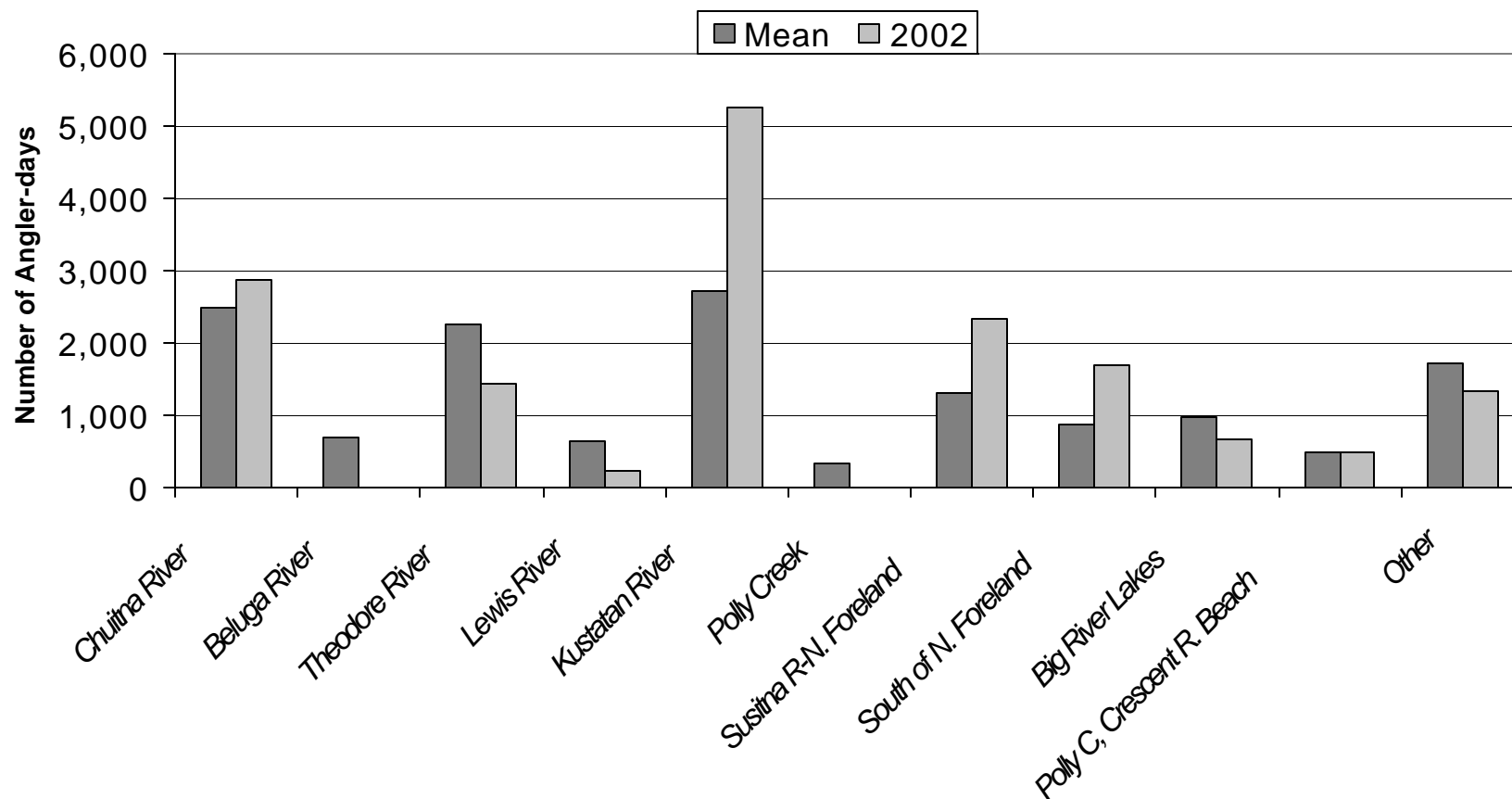


Source: SWHS, Mills 1979-1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. *In prep* a, b.

Figure 5.-Mean number of angler-days per year of sport fishing effort expended at sites in the Westside Susitna River management unit, 1977-2001, and effort expended in 2002.

Table 5.-Angler-days of sport fishing effort for the West Cook Inlet drainage by fishery as estimated by SWHS, 1977-2002.

Year	Chuitna River	Beluga River	Theodore River	Lewis River	Kustatan River	Polly Creek	Susitna R.- N. Foreland	South of N. Foreland	Big River Lakes	Polly Cr., Crescent R. Beach	Other	Total
1977	1,355		1,037	343								2,735
1978	1,185		905	172								2,262
1979	1,069		912	31								2,012
1980	614		700	43								1,357
1981	1,364		899									2,263
1982	751		375									1,126
1983	4,290		448		1,499							6,237
1984	2,342		3,497		1,673							7,512
1985	3,381		5,601	1,023	4,335					2,115		16,455
1986	3,532		4,786		2,737					2,482		13,537
1987	3,169		6,194	1,231	3,622					2,031		16,247
1988	1,637		4,056	837	3,674					1,671		11,875
1989	2,666	866	4,113	1,114	3,522				370	962	1,238	14,851
1990	4,443		3,626	1,285	3,724					1,314		14,392
1991	2,454		2,841	496	6,674					871		13,336
1992	2,817	512	2,091		4,150	747				683		11,000
1993	2,966		2,528	400	5,403			2,379	535	1,117	2,665	17,993
1994	2,236		3,492		3,972			1,283	653	604	3,710	15,950
1995	2,205		2,425		3,684	688		845	659	617	1,434	12,557
1996	2,505		1,811		2,699	342	1,075	855	1,251	541	1,067	12,146
1997	2,210		521		2,684		1,738	882	976	572	1,635	11,218
1998	3,221		280		2,749		1,139	862	729	329	710	10,019
1999	2,440		488		3,234		2,333	2,623	1,341	677	1,266	14,402
2000	4,104		1,452		4,393		2,593	2,450	2,504	987		18,483
2001	3,580		1,347		3,336		2,027	2,615	902	398		14,205
Mean	2,501	689	2,257	634	2,711	342	1,317	866	985	481	1,716	10,567
97-01 Mean	3,111		818		3,279		1,966	1,886	1,290	593	1,204	13,665
2002	2,864		1,450	237	5,254		2,340	1,686	678	499	1,327	16,335



Source: SWHS, Mills 1979-1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. *In prep* a, b.

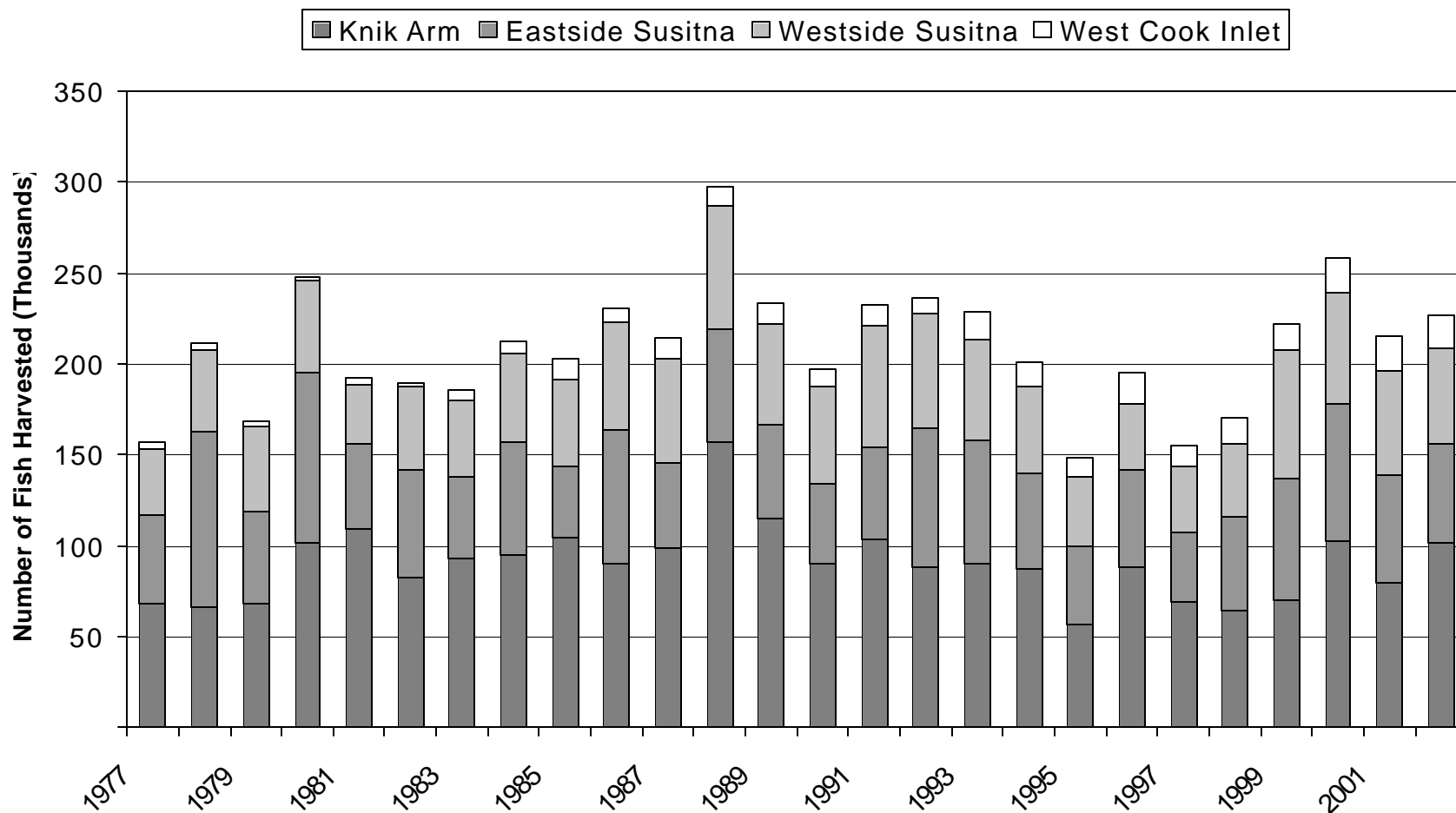
Figure 6.-Mean number of angler-days per year of sport fishing effort expended at sites in the West Cook Inlet drainage, 1977-2001, and effort expended in 2002.

Table 6.-Northern Cook Inlet Management Area recreational harvest by management unit as estimated by SWHS, 1977-2002.

Year	Knik Arm		Eastside Susitna		Westside Susitna		West Cook Inlet		NCIMA	Alaska	% by	Region II	% by
	Harvest	% NCIMA	Harvest	% NCIMA	Harvest	% NCIMA	Harvest	% NCIMA	Total	Total	NCIMA	Total	NCIMA
1977	67,979	43	49,274	31	36,096	23	3,510	2	156,859	2,300,332	7	1,929,407	8
1978	66,419	31	96,469	46	45,208	21	3,070	1	211,166	2,399,472	9	1,992,212	11
1979	68,658	41	50,476	30	46,939	28	2,453	1	168,526	2,502,213	7	2,044,813	8
1980	102,015	41	93,271	38	50,474	20	1,798	1	247,558	2,627,312	9	2,118,543	12
1981	109,824	57	46,558	24	32,153	17	3,631	2	192,166	2,528,056	8	2,052,719	9
1982	82,976	44	58,998	31	46,189	24	1,814	1	189,977	2,828,706	7	2,222,354	9
1983	92,689	50	45,330	24	41,855	23	5,596	3	185,470	3,086,280	6	2,409,876	8
1984	94,974	45	62,071	29	48,947	23	6,145	3	212,137	3,115,966	7	2,517,185	8
1985	104,136	51	39,684	20	47,868	24	10,853	5	202,541	3,096,044	7	2,469,836	8
1986	90,264	39	73,083	32	59,300	26	8,031	3	230,678	3,163,433	7	2,609,304	9
1987	98,373	46	47,548	22	57,252	27	11,400	5	214,573	3,207,138	7	2,584,420	8
1988	156,784	53	62,693	21	67,567	23	10,954	4	297,998	3,483,306	9	2,841,033	10
1989	115,070	49	51,426	22	55,361	24	11,592	5	233,449	3,213,867	7	2,519,404	9
1990	90,035	46	44,360	23	52,846	27	9,713	5	196,954	3,033,301	6	2,428,172	8
1991	103,384	44	51,068	22	66,514	29	11,492	5	232,458	3,311,513	7	2,633,148	9
1992	88,267	37	76,569	32	62,768	26	9,275	4	236,879	3,234,048	7	2,675,940	9
1993	90,017	39	67,907	30	55,215	24	15,384	7	228,523	2,989,720	8	2,387,224	10
1994	87,547	44	51,984	26	47,891	24	13,583	7	201,005	3,349,821	6	2,689,718	7
1995	57,182	39	42,845	29	37,688	25	10,741	7	148,456	2,909,979	5	2,396,666	6
1996	88,461	45	53,672	27	35,940	18	17,522	9	195,595	3,336,773	6	2,733,663	7
1997	69,199	45	37,909	24	36,110	23	11,755	8	154,973	3,294,273	5	2,643,988	6
1998	64,060	38	51,514	30	40,329	24	14,604	9	170,507	3,163,194	5	2,365,536	7
1999	70,384	32	66,153	30	70,806	32	15,120	7	222,463	3,093,608	7	2,163,862	10
2000	102,831	40	75,496	29	61,252	24	19,202	7	258,781	3,338,083	8	2,547,294	10
2001	79,920	37	59,205	27	57,173	26	19,582	9	215,880	3,078,100	7	2,228,839	10
Mean	89,658	43	58,223	28	50,390	24	9,953	5	208,223	3,027,382	7	2,408,206	9
1997-2001 Mean	77,279	38	58,055	28	53,134	26	16,053	8	204,521	3,193,452	6	2,389,904	9
2002	102,112	48	53,912	25	40,031	19	17,752	8	213,807	3,216,432	7	2,401,826	9

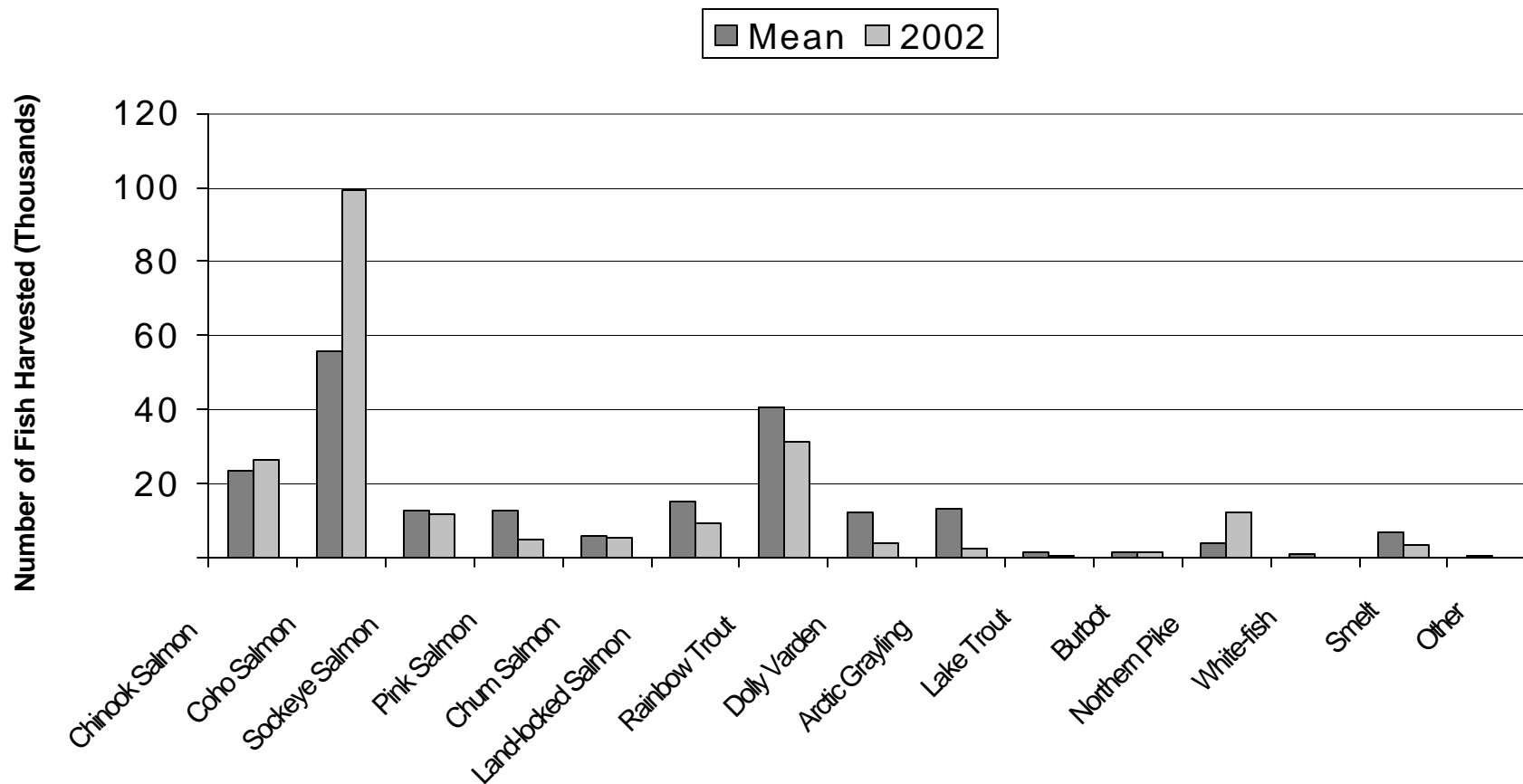
Table 7.-Northern Cook Inlet Management Area sport fish harvest by species as estimated by SWHS, 1977-2002.

Year	Chinook Salmon	Coho Salmon	Sockeye Salmon	Pink Salmon	Chum Salmon	Land- locked Salmon	Rainbow Trout	Dolly Varden	Arctic Grayling	Lake Trout	Burbot	Northern Pike	White- fish	Smelt	Other	Total
1977	4,674	17,206	7,962	30,136	2,062	27,429	32,270	13,365	15,799	3,231	1,024	132	0	0	1,569	156,859
1978	3,543	27,019	3,140	58,808	17,969	21,252	42,087	17,130	15,728	1,980	876	316	0	0	1,318	211,166
1979	7,964	24,076	6,193	13,925	5,599	12,144	47,924	17,718	27,949	1,789	1,172	382	0	0	1,691	168,526
1980	8,198	39,167	7,658	61,985	5,577	21,163	49,428	18,255	29,720	2,833	1,383	232	0	0	1,959	247,558
1981	8,602	23,621	8,369	9,627	4,820	24,533	63,592	20,310	24,506	2,375	518	125	0	0	1,168	192,166
1982	12,449	35,246	9,067	19,045	8,111	11,841	49,948	19,723	19,196	1,560	1,656	607	0	0	1,528	189,977
1983	14,860	17,477	21,533	5,686	6,032	23,854	46,184	20,362	21,332	3,532	2,305	944	0	0	1,369	185,470
1984	20,424	49,537	15,609	14,763	8,115	15,428	42,901	14,440	21,148	2,843	2,778	1,821	1,058	0	1,272	212,137
1985	21,904	38,971	9,840	4,018	3,053	15,345	63,319	18,626	18,554	622	1,855	1,404	2,477	2,240	313	202,541
1986	25,873	45,890	14,203	15,992	9,354	16,405	42,642	20,268	20,109	2,286	2,899	1,977	2,105	10,651	24	230,678
1987	25,906	54,109	13,530	4,634	6,358	15,032	39,909	16,421	16,405	2,046	5,140	2,464	2,861	9,265	493	214,573
1988	29,720	83,241	14,573	8,693	13,408	17,207	74,962	17,645	18,735	2,529	1,835	3,473	3,128	8,849	0	297,998
1989	35,792	66,833	14,403	5,191	9,043	11,577	54,962	12,860	12,238	2,397	978	3,120	1,716	2,324	15	233,449
1990	30,967	50,404	11,839	6,005	2,557	16,101	40,139	13,792	8,187	1,656	3,141	2,842	3,516	5,591	217	196,954
1991	33,958	70,425	11,713	3,495	3,240	15,754	52,513	13,859	10,084	1,527	981	6,640	2,057	6,132	80	232,458
1992	45,226	82,859	11,921	8,225	2,858	11,961	34,161	7,496	6,385	1,698	1,412	5,382	862	15,523	910	236,879
1993	49,387	87,606	14,579	4,827	2,536	14,567	27,950	5,978	5,175	765	1,655	5,721	878	6,596	303	228,523
1994	31,104	73,017	12,479	3,878	2,937	14,198	28,855	5,163	8,044	411	2,276	3,893	1,193	13,135	422	201,005
1995	16,537	65,145	11,441	3,081	7,967	7,318	19,884	4,167	3,199	456	858	3,546	227	4,549	81	148,456
1996	19,839	77,853	11,048	5,430	4,841	23,350	26,653	9,096	5,724	471	898	7,934	176	2,181	101	195,595
1997	22,620	35,685	15,229	3,620	4,267	11,721	30,089	6,594	4,425	520	1,874	9,024	214	8,853	238	154,973
1998	22,912	68,231	16,343	7,889	3,451	5,377	19,931	3,736	3,752	338	1,358	8,180	566	8,376	67	170,507
1999	32,803	65,055	16,535	3,819	4,222	9,377	28,425	5,906	4,135	402	1,271	10,824	134	39,555	0	222,463
2000	33,102	105,252	23,235	14,627	5,166	12,064	31,703	6,116	2,923	385	2,177	9,577	311	11,827	316	258,781
2001	30,395	89,893	20,565	5,229	5,026	7,556	23,202	4,560	2,864	439	689	12,739	797	11,630	296	215,880
Mean	23,550	55,753	12,920	12,905	5,943	15,302	40,545	12,543	13,053	1,564	1,720	4,132	971	6,691	630	208,223
% of Total Mean	11	27	6	6	3	7	19	6	6	1	1	2	<1	3	<1	100
97-01 mean	28,366	72,823	18,381	7,037	4,426	9,219	26,670	5,382	3,620	417	1,474	10,069	404	16,048	183	204,521
2002	26,474	99,155	11,946	5,177	5,461	9,137	31,521	4,150	2,532	643	1,371	12,318	331	3,298	293	213,807



Source: SWHS, Mills 1979-1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. *In prep* a, b.

Figure 7.-Northern Cook Inlet Management Area recreational harvest, 1977-2002.



Source: SWHS, Mills 1979-1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. *In prep* a, b.

Figure 8.-Northern Cook Inlet Management Area mean recreational harvest by species, 1977-2001, and 2002 recreational harvest.

Table 8.-Knik Arm drainage sport fish harvest by species as estimated by SWHS, 1977-2002.

Year	Chinook Salmon	Coho Salmon	Sockeye Salmon	Pink Salmon	Chum Salmon	Land-locked Salmon	Rainbow Trout	Dolly Varden	Arctic Grayling	Lake Trout	Burbot	Northern Pike	White- fish	Smelt	Other	Total
1977	207	4,366	1,576	1,661	250	26,917	18,615	7,541	3,916	2,260	290				380	67,979
1978	140	7,895	1,239	1,842	1,131	18,884	23,139	7,982	2,413	507	452				795	66,419
1979	800	7,139	3,616	818	654	11,853	24,843	8,582	8,371	1,254	291				437	68,658
1980	646	16,030	5,674	4,701	534	19,500	29,368	12,484	9,514	2,118	310				1,136	102,015
1981	1,466	10,484	6,080	834	431	24,255	41,749	14,475	7,396	1,791	87				776	109,824
1982	1,666	13,676	4,621	1,425	1,174	10,845	30,549	13,540	2,924	1,058	681				817	82,976
1983	1,255	6,139	14,297	1,009	642	22,805	26,421	13,391	4,425	1,279	597				429	92,689
1984	2,057	23,429	9,240	2,743	2,032	14,768	26,418	9,103	2,480	1,919	336				449	94,974
1985	1,889	14,339	5,612	787	514	14,461	46,431	13,336	4,768	277	210	156	587	560	209	104,136
1986	1,524	12,361	6,009	1,800	3,770	14,299	27,690	13,048	4,233	313	804	458	580	3,351	24	90,264
1987	2,476	25,787	8,785	886	2,574	14,887	24,663	11,425	3,893	906	325	924	380	0	462	98,373
1988	2,916	40,037	8,076	1,927	5,221	16,588	58,609	11,314	8,367	1,911	291	364	1,163	0	0	156,784
1989	4,341	23,846	9,040	1,321	4,477	11,041	44,518	8,143	5,429	835	372	863	844	0	0	115,070
1990	2,022	18,762	6,588	650	746	15,950	30,699	8,746	3,068	1,067	262	754	622	0	99	90,035
1991	2,277	22,186	4,968	926	1,099	15,740	39,636	9,138	2,816	512	477	2,709	900	0	0	103,384
1992	3,969	25,814	5,349	1,044	510	11,875	27,995	4,186	2,511	840	500	2,605	257	0	812	88,267
1993	3,602	35,763	5,926	230	885	13,829	21,565	3,686	1,343	201	482	2,102	227	0	176	90,017
1994	4,303	28,539	5,082	635	1,356	14,153	22,446	3,532	2,898	66	512	1,328	242	2,292	163	87,547
1995	1,707	20,650	4,349	409	4,115	7,285	14,878	2,109	818	118	151	522	71	0	0	57,182
1996	1,579	24,874	4,307	961	1,681	21,364	21,780	5,606	1,940	76	218	4,021	16	0	38	88,461
1997	2,938	11,773	4,095	377	393	11,599	25,695	4,639	1,938	20	709	4,858	96	0	69	69,199
1998	2,031	23,750	5,499	646	797	5,057	17,693	2,425	1,300	68	121	4,272	356	0	45	64,060
1999	2,724	14,429	3,658	119	738	8,674	24,527	3,798	1,740	108	369	6,785	7	2,708	0	70,384
2000	2,824	32,530	7,536	954	1,254	11,233	28,745	3,393	1,194	116	805	5,698	113	6,131	305	102,831
2001	2,255	30,106	4,328	404	1,155	7,556	21,061	2,662	1,215	162	230	6,544	551	1,574	117	79,920
Mean	2,145	19,788	5,822	1,164	1,525	14,617	28,789	7,931	3,636	791	395	2,645	412	977	310	90,949
% of Total																
Mean	2	22	6	1	2	16	32	9	4	1	<1	3	<1	1	<1	100
1997-2001																
mean	2,554	22,518	5,023	500	867	8,824	23,544	3,383	1,477	95	447	5,631	225	2,083	107	77,279
2002	3,195	44,448	4,619	466	1,685	9,137	28,325	1,822	881	533	1,069	5,716	190	0	26	102,112

Table 9.-Eastside Susitna River drainage sport fish harvest by species as estimated by SWHS, 1977-2002.

Year	Chinook Salmon	Coho Salmon	Sockeye Salmon	Pink Salmon	Chum Salmon	Land- locked Salmon	Rainbow Trout	Dolly Varden	Arctic Grayling	Lake Trout	Burbot	White- fish	Northern Pike	Smelt	Other	Total
1977	1,056	5,709	3,594	19,663	1,382	512	5,225	2,726	7,469	693	619				626	49,274
1978	886	8,573	267	50,711	14,203	2,368	5,930	5,640	6,590	877	271				153	96,469
1979	1,298	7,564	1,020	11,189	3,791	291	9,463	3,699	10,489	472	427				773	50,476
1980	1,370	10,368	873	52,746	4,552	1,663	6,715	2,671	10,959	267	367				720	93,271
1981	2,202	6,593	833	8,143	4,149	278	8,813	2,874	11,860	287	220				306	46,558
1982	2,063	10,167	1,555	15,345	6,644	996	7,536	4,066	9,747	335	199				345	58,998
1983	2,852	5,176	3,221	3,954	4,982	1,049	9,639	4,205	7,478	1,404	901				469	45,330
1984	4,428	13,916	2,705	9,491	5,211	660	7,656	4,004	11,222	362	1,133	1,058			225	62,071
1985	4,342	7,042	1,465	2,510	2,142	884	7,872	3,138	7,822	17	1,085	1,365			0	39,684
1986	8,569	16,190	4,029	10,527	4,756	2,106	8,061	4,213	10,346	1,816	1,380	1,090			0	73,083
1987	8,603	11,028	2,046	2,209	3,042	145	6,647	3,946	7,568	343	1,175	796			0	47,548
1988	9,139	19,518	2,857	4,129	6,604	619	7,622	4,748	6,020	291	600	546			0	62,693
1989	9,783	17,078	2,527	2,715	4,151	536	4,972	3,040	4,562	1,210	395	442			15	51,426
1990	9,423	11,743	2,677	4,093	1,565	151	5,008	3,613	2,910	387	1,345	1,378			67	44,360
1991	9,083	19,479	2,897	2,001	1,950	14	7,854	2,140	3,875	726	407	626			16	51,068
1992	21,307	33,790	3,468	5,899	2,044	86	3,948	2,394	2,189	495	608	265			76	76,569
1993	22,688	26,063	4,137	3,941	1,480	738	3,713	1,413	2,401	288	909	87	0		49	67,907
1994	14,970	20,870	3,443	1,968	1,269	45	3,658	1,033	3,484	232	674	172	0		166	51,984
1995	7,872	19,165	3,682	2,311	3,234	33	3,138	1,012	1,486	254	517	80	0		61	42,845
1996	11,023	24,174	2,675	3,890	2,808	1,986	2,510	2,027	1,913	308	284	0	11		63	53,672
1997	10,989	10,297	5,851	2,477	2,852	122	2,324	906	1,387	189	304	32	95		84	37,909
1998	10,472	23,086	5,859	5,579	2,260	320	968	889	1,413	217	208	96	130		17	51,514
1999	16,875	23,292	4,608	2,887	2,941	703	1,755	918	1,614	222	230	32	260	9,816	0	66,153
2000	11,774	37,748	6,509	11,483	3,279	831	1,521	823	979	154	242	52	101	0	0	75,496
2001	13,504	26,617	6,776	3,650	3,180	0	1,112	1,172	1,036	226	214	135	55	1,349	179	59,205
Mean	8,663	16,610	3,183	9,740	3,779	685	5,346	2,692	5,473	483	589	458	72	3,722	176	58,223
% of Total Mean	15	29	5	17	6	1	9	5	9	1	1	1	<1	6	<1	100
1997-2001 mean	12,723	24,208	5,921	5,215	2,902	395	1,536	942	1,286	202	240	69	128	3,722	56	58,055
2002	10,695	27,183	3,427	3,760	3,389	0	1,751	1,512	1,165	103	211	67	618	0	31	53,912

Table 10.-Westside Susitna River drainage sport fish harvest by species as estimated by SWHS, 1977-2002.

Year	Chinook Salmon	Coho Salmon	Sockeye Salmon	Pink Salmon	Chum Salmon	Rainbow Trout	Dolly Varden	Arctic Grayling	Lake Trout	Burbot	Northern Pike	White-fish	Smelt	Other	Total
1977	2,938	6,599	2,786	8,142	423	7,472	2,246	4,414	278	115	132			551	36,096
1978	2,039	10,173	1,634	5,605	2,635	12,295	2,667	6,725	596	153	316			370	45,208
1979	5,768	9,036	1,557	1,854	1,154	12,555	4,591	9,089	63	454	382			436	46,939
1980	6,148	12,141	1,111	4,237	491	12,785	2,825	9,247	448	706	232			103	50,474
1981	4,742	5,940	1,408	555	240	11,296	2,003	5,250	297	211	125			86	32,153
1982	8,573	10,658	2,881	2,065	293	11,465	1,813	6,525	167	776	607			366	46,189
1983	9,568	3,610	3,549	702	398	9,253	2,400	9,314	849	807	944			461	41,855
1984	12,106	9,511	3,415	2,467	872	8,079	798	7,409	562	1,309	1,821			598	48,947
1985	13,644	11,270	2,302	584	347	8,114	1,267	5,895	328	560	1,248	525	1,680	104	47,868
1986	13,402	13,117	4,076	3,385	615	6,668	2,470	5,441	157	715	1,519	435	7,300	0	59,300
1987	13,350	8,746	2,427	1,467	688	8,020	688	4,908	797	3,640	1,540	1,685	9,265	31	57,252
1988	15,970	16,283	3,167	2,582	1,474	8,058	1,401	4,275	327	944	2,818	1,419	8,849	0	67,567
1989	19,343	18,226	2,307	1,045	415	4,928	1,486	2,104	352	192	2,257	382	2,324	0	55,361
1990	17,425	13,883	1,938	1,238	234	3,960	1,163	2,158	202	1,534	2,088	1,381	5,591	51	52,846
1991	21,836	20,507	3,083	524	191	4,526	1,436	3,367	289	97	3,931	531	6,132	64	66,514
1992	18,737	16,218	2,916	1,264	304	2,028	400	1,572	363	304	2,777	340	15,523	22	62,768
1993	21,142	15,454	2,161	586	147	2,481	463	1,422	276	264	3,619	555	6,596	49	55,215
1994	10,248	15,361	1,919	1,259	312	2,526	507	1,654	113	1,090	2,556	779	9,483	84	47,891
1995	6,265	17,148	2,106	361	591	1,757	622	895	84	190	3,024	76	4,549	20	37,688
1996	5,879	17,375	1,115	558	297	1,924	693	1,736	87	396	3,902	160	1,818	0	35,940
1997	7,799	7,123	3,109	729	989	1,452	249	844	311	861	4,026	18	8,515	85	36,110
1998	9,716	13,235	2,463	1,589	394	1,081	122	987	46	1,029	3,753	114	5,795	5	40,329
1999	12,131	17,995	5,279	577	421	1,866	266	715	72	672	3,686	95	27,031	0	70,806
2000	17,341	23,262	4,946	2,159	594	1,226	534	666	60	1,130	3,692	139	5,492	11	61,252
2001	13,914	19,221	6,311	1,074	439	759	304	575	34	245	5,479	111	8,707	0	57,173
Mean	11,601	13,284	2,799	1,864	598	5,863	1,337	3,887	286	736	2,259	514	7,921	140	50,390
% of Total Mean	23	26	6	4	1	12	3	8	1	1	4	1	16	<1	100
1997-2001 mean	12,180	16,167	4,422	1,226	567	1,277	295	757	105	787	4,127	95	11,108	20	53,134
2002	11,357	14,144	1,881	700	377	1,209	320	479	0	91	5,865	74	3,298	236	40,031

Table 11.-West Cook Inlet drainage sport fish harvest by species as estimated by SWHS, 1977-2002.

Year	Chinook Salmon	Coho Salmon	Sockeye Salmon	Pink Salmon	Chum Salmon	Rainbow Trout	Dolly Varden	Arctic Grayling	Lake Trout	Burbot	White- fish	Smelt	N. Pike	Other	Total
1977	473	532	6	670	7	958	852	0		0		0	0	12	3,510
1978	478	378	0	650	0	723	841	0		0		0	0	0	3,070
1979	98	337	0	64	0	1,063	846	0		0		0	0	45	2,453
1980	34	628	0	301	0	560	275	0		0		0	0	0	1,798
1981	192	604	48	95	0	1,734	958	0		0		0	0	0	3,631
1982	147	745	10	210	0	398	304	0		0		0	0	0	1,814
1983	1,185	2,552	466	21	10	871	366	115		0		0	0	10	5,596
1984	1,833	2,681	249	62	0	748	535	37		0		0	0	0	6,145
1985	2,029	6,320	461	137	50	902	885	69		0	0	0	0	0	10,853
1986	2,378	4,222	89	280	213	223	537	89		0	0	0	0	0	8,031
1987	1,477	8,548	272	72	54	579	362	36		0	0	0	0	0	11,400
1988	1,695	7,403	473	55	109	673	182	73		0	0	0	291	0	10,954
1989	2,325	7,683	529	110	0	544	191	143		19	48	0	0	0	11,592
1990	2,097	6,016	636	24	12	472	270	51		0	135	0	0	0	9,713
1991	762	8,253	765	44	0	497	1,145	26		0	0	0	0	0	11,492
1992	1,213	7,037	188	18	0	190	516	113		0	0	0	0	0	9,275
1993	1,955	10,326	2,355	70	24	191	416	9		0	9	0	0	29	15,384
1994	1,583	8,247	2,035	16	0	225	91	8	0	0	0	1,360	9	9	13,583
1995	693	8,182	1,304	0	27	111	424	0	0	0	0	0	0	0	10,741
1996	1,358	11,430	2,951	21	55	439	770	135	0	0	0	363	0	0	17,522
1997	894	6,492	2,174	37	33	618	800	256	0	0	68	338	45	0	11,755
1998	693	8,160	2,522	75	0	189	300	52	7	0	0	2,581	25	0	14,604
1999	1,073	9,339	2,990	236	122	277	924	66	0	0	0	0	93	0	15,120
2000	1,163	11,712	4,244	31	39	211	1,366	84	55	0	7	204	86	0	19,202
2001	722	13,949	3,150	101	252	270	422	38	17	0	0	0	661	0	19,582
Mean	1,142	6,071	1,117	136	40	547	583	56	10	1	16	194	48	4	9,953
% of Total Mean	11	61	11	1	<1	5	6	1	<1	<1	<1	2	<1	<1	100
1997-2001 mean	909	9,930	3,016	96	89	313	762	99	16	0	15	625	182	0	16,053
2002	1,227	13,380	2,019	251	10	236	496	7	7	0	0	0	119	0	17,752

RECREATIONAL FISH CATCH-AND-RELEASE

Estimates of the number of fish caught and released by anglers fishing NCIMA waters became available for the first time during 1990 (Mills 1991). From 1992 through 2001 the average percent released was approximately 67% of the total catch (Table 12).

The proportion and type of fish released by anglers varies within and among management units (Tables 13 and 14). Pink salmon, chum salmon, Arctic grayling, and rainbow trout were the most frequently released fish species during 1992-2002. In all units during 1995-2002, the number of fish caught and released was greater than the number of fish caught and harvested, except the West Cook Inlet Unit in 1999 (Figure 9).

OTHER USER GROUPS

Salmon returning to the NCIMA are harvested by various commercial set and drift gillnet fisheries located throughout Upper Cook Inlet (Appendix B1). In nearly all cases harvests in the commercial fisheries are much larger than in NCIMA sport fisheries (Figure 10). The average commercial harvest from 1977 through 2002 was approximately 5 million salmon by the various commercial fisheries of Upper Cook Inlet, whereas during this same period an average of approximately 100,000 anadromous salmon were harvested annually by recreational anglers (Table 7 and Appendix B2). Chinook salmon are the exception; beginning in 1988 the yearly harvest of chinook salmon in the recreational harvest exceeded the commercial harvest in all but 1995 (Table 7, Appendix B2).

It is generally believed that not all commercial fisheries in Upper Cook Inlet intercept the same proportion of NCIMA salmon stocks. For purposes of management, it has generally been assumed that NCIMA salmon stocks are intercepted to a larger extent in the driftnet and Western Subdistrict setnet fisheries of the Central District (Appendices B3 and B4) and in the setnet fishery of the Northern District (Appendices B5-B9) than in other commercial fishing districts. Although quantifiable estimates of contribution to these commercial fisheries by specific stock units are not available for many of the species, a consistently high proportion of the harvests in the Northern District setnet fisheries is assumed to be composed of NCIMA stocks. The proportional harvests of NCIMA salmon stocks in the Central District drift and setnet fisheries are assumed to be dependent on both time and area fished. A summary of the 2003 commercial season is found in Appendix B10.

Fish stocks of NCIMA are also harvested in the Tyonek subsistence fishery, Fish Creek personal use dip net fishery, Upper Yentna River subsistence fish wheel fishery, and by educational fishery permits which have been issued to the villages of Eklutna and Tyonek, and the Knik Tribal council. The harvest by these fisheries on wild stocks is relatively small when compared to recreational and commercial harvests.

ECONOMIC VALUE OF SPORT FISHERIES

The most recent estimate available to assess the economic value of the NCIMA recreational fisheries was conducted in 1986 (Jones and Stokes Associates, Inc. 1987). The economic value of the sport fisheries of the NCIMA was estimated to be approximately 29 million dollars (Table 15). This compared to an estimated value of 127 million dollars for Southcentral Alaska sport fisheries during 1986 (Jones and Stokes Associates, Inc. 1987). Resident anglers expended about 18.5 million dollars whereas nonresident anglers expended about 10.6 million dollars. Beginning in 1990, the annual

Table 12.-Percent of fish released by recreational anglers in the Northern Cook Inlet Management Area for 1992-2002.

	1992		1993		1994		1995		1996		1997		1998		1992-2002 Average Percent Released
	Catch	Percent Released	Catch	Percent Released	Catch	Percent Released	Catch	Percent Released	Catch	Percent Released	Catch	Percent Released	Catch	Percent Released	
Chinook Salmon	86,500	47.7	137,446	64.1	45,010	30.9	35,622	53.6	63,335	68.7	81,933	72.4	66,800	65.7	60.8
Coho Salmon	118,972	30.4	123,560	29.1	100,049	27.0	102,138	36.2	123,040	36.7	65,609	45.6	104,429	34.7	39.0
Sockeye Salmon	19,739	39.6	24,098	39.5	23,876	47.7	20,168	43.3	25,491	56.7	33,844	55.0	30,791	46.9	49.3
Pink Salmon	51,786	84.1	47,126	89.8	29,629	86.9	38,575	92.0	61,982	91.2	35,170	89.7	98,040	92.0	90.5
Chum Salmon	20,761	86.2	16,960	85.0	20,266	85.5	55,194	85.6	47,440	89.8	37,868	88.7	50,081	93.1	89.5
Landlocked Salmon	26,489	54.8	30,388	52.1	25,431	44.2	12,287	40.4	31,625	26.2	30,473	61.5	14,345	62.5	51.6
Lake Trout	6,373	73.4	4,835	84.2	3,351	87.7	1,823	75.0	1,628	71.1	1,780	70.8	758	55.4	75.8
Dolly Varden	21,285	64.8	23,467	74.5	19,177	73.1	14,012	70.3	27,312	66.7	23,411	71.8	22,325	83.3	75.0
Rainbow Trout	130,315	73.8	125,574	77.7	119,902	75.9	96,125	79.3	140,864	81.1	152,608	80.3	112,024	82.2	80.3
Arctic Grayling	38,385	83.4	39,626	86.9	49,932	83.9	23,190	86.2	35,783	84.0	40,252	89.0	31,308	88.0	87.8
Whitefish	3,253	73.5	3,307	73.5	3,812	68.7	1,255	81.9	726	75.8	835	74.4	1,596	64.5	74.7
Northern Pike	20,925	74.3	34,237	83.3	8,270	52.9	16,239	78.2	30,245	73.8	26,273	65.7	28,602	71.4	70.3
Burbot	2,611	45.9	3,094	46.5	3,163	28.0	1,444	40.6	1,801	50.1	4,778	60.8	2,155	37.0	42.6
Smelt	15,523	0.0	6,596	0.0	13,492	2.6	4,600	1.1	13,669	84.0	11,218	21.1	12,121	30.9	17.2
Other	1,377	33.9	1,158	73.8	1,376	69.3	1,126	92.8	193	47.7	840	71.7	274	75.5	72.7
Total	563,606	58.0	621,472	63.2	466,736	56.9	423,798	65.0	605,134	67.7	546,892	71.7	575,649	70.4	67.0

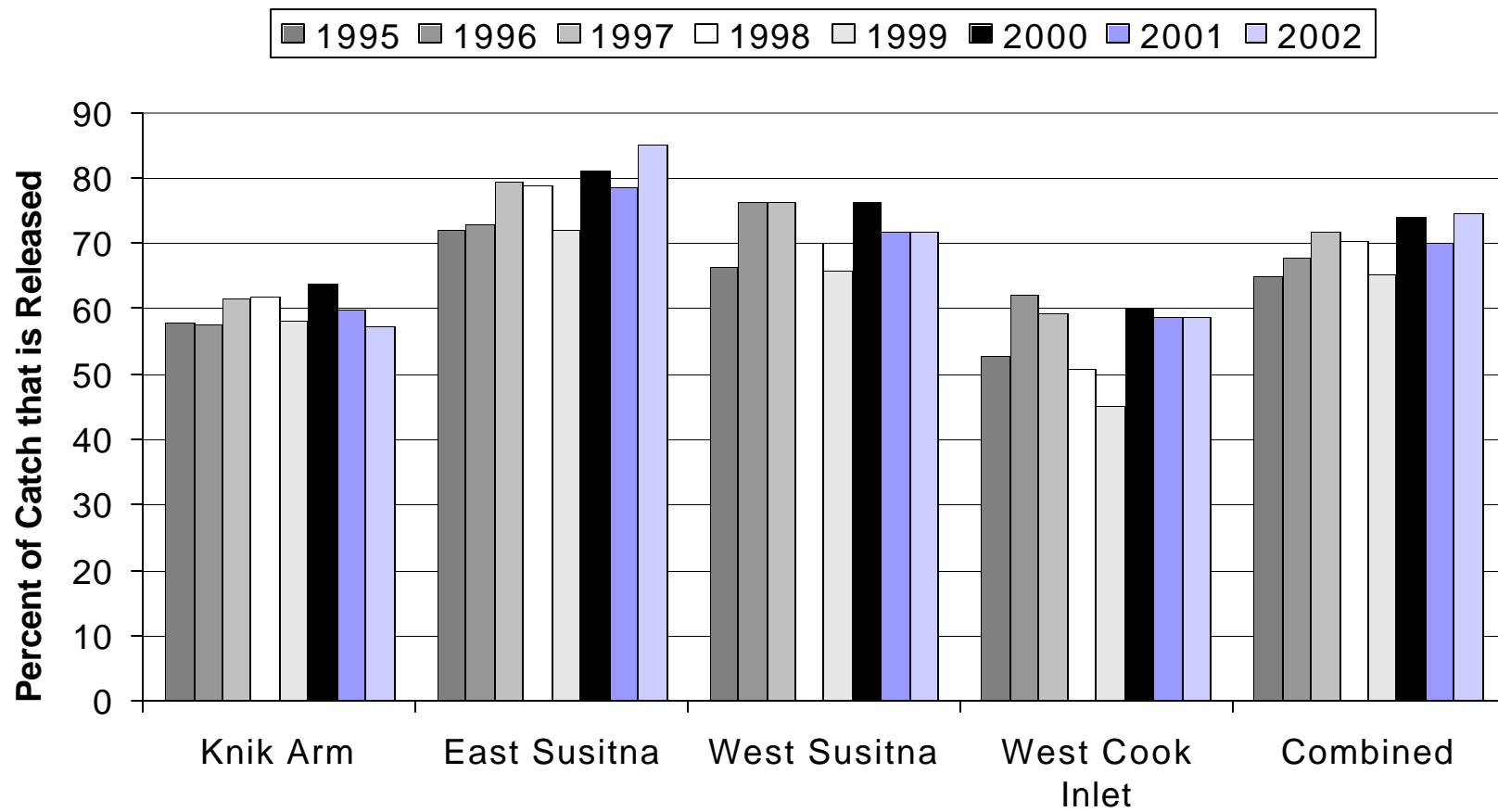
	1999		2000		2001		2002	
Chinook Salmon	100,386	67.3	96,545	65.7	90,706	66.5	78,534	66.3
Coho Salmon	109,679	40.7	201,431	47.7	174,916	48.6	205,927	51.8
Sockeye Salmon	33,032	49.9	45,860	49.3	42,639	51.8	31,661	62.3
Pink Salmon	36,144	89.4	220,593	93.4	71,872	92.7	92,105	94.4
Chum Salmon	47,519	91.1	71,557	92.8	65,219	92.3	89,862	93.9
Landlocked Salmon	17,176	45.4	32,245	62.6	24,228	68.8	17,879	48.9
Lake Trout	2,617	84.6	1,098	64.9	2,088	79.0	5,280	87.8
Dolly Varden	23,415	74.8	31,070	80.3	24,458	81.4	25,653	83.8
Rainbow Trout	164,925	82.8	188,807	83.2	134,763	82.8	206,537	84.7
Arctic Grayling	29,839	86.1	38,950	92.5	32,641	91.2	44,056	94.3
Whitefish	862	84.5	1,673	81.4	2,435	67.3	1,426	76.8
Northern Pike	29,354	63.1	44,640	78.5	42,422	70.0	32,460	62.1
Burbot	2,179	41.7	3,367	35.3	1,121	38.5	2,473	44.6
Smelt	41,609	4.9	12,754	7.3	12,552	7.3	4,667	29.3
Other	276	100.0	2,067	84.7	1,636	81.9	921	68.2
Total	639,012	65.2	992,657	73.9	723,696	70.2	839,441	74.5

Table 13.-Percent of fish released by recreational anglers in the Knik Arm and Eastside Susitna River areas, 1997-2002.

	1997		1998		1999		2000		2001		2002	
	Catch	Percent Released	Catch	Percent Released	Catch	Percent Released	Catch	Percent Released	Catch	Percent Released	Catch	Percent Released
Knik Arm Area												
Chinook Salmon	6,668	55.9	3,785	46.3	5,090	46.5	5,514	48.8	4,738	52.4	6,854	53.4
Coho Salmon	17,700	33.5	30,286	21.6	19,490	26.0	51,691	37.1	42,991	30.0	67,185	33.8
Sockeye Salmon	6,039	32.2	8,113	32.2	5,559	34.2	12,760	40.9	9,387	53.9	7,301	36.7
Pink Salmon	1,837	79.5	7,796	91.7	1,246	90.4	14,712	93.5	4,184	90.3	5,857	92.0
Chum Salmon	3,019	87.0	4,761	83.3	3,630	79.7	9,656	87.0	9,014	87.2	10,280	83.6
Landlocked Salmon	27,895	58.4	13,907	63.6	15,097	42.5	31,100	63.9	24,228	68.8	17,839	48.8
Lake Trout	80	75.0	83	18.1	237	54.4	277	58.1	696	76.7	3,082	82.7
Dolly Varden	12,814	63.8	10,699	77.3	8,974	57.7	10,705	68.3	8,401	68.3	7,449	75.5
Rainbow Trout	85,278	69.9	66,837	73.5	84,691	71.0	114,013	74.8	70,821	70.3	93,520	69.7
Arctic Grayling	6,597	70.6	6,874	81.1	6,590	73.6	9,551	87.5	4,470	72.8	4,628	81.0
Whitefish	177	45.8	480	25.8	131	94.7	243	53.5	1,198	54.0	388	51.0
Northern Pike	9,137	46.8	10,223	58.2	14,231	52.3	16,717	65.9	15,457	57.7	13,079	56.3
Burbot	3,106	77.2	478	74.7	817	54.8	1,101	26.9	393	41.5	1,681	36.4
Smelt	0		3,745	100.0	2,722	0.5	6,131	0.0	1,574	0.0	0	
Other	163	57.7	133	66.2	199	100.0	338	9.8	1,161	89.9	216	88.0
Total	180,510	61.7	168,200	61.9	168,704	58.3	284,509	63.9	198,713	59.8	239,359	57.3
East Susitna Area												
Chinook Salmon	38,937	71.8	31,265	66.5	48,400	65.1	35,421	66.8	38,590	65.0	35,594	70.0
Coho Salmon	18,524	44.4	37,343	38.2	43,570	46.5	73,305	48.5	58,508	54.5	64,557	57.9
Sockeye Salmon	11,998	51.2	10,559	44.5	10,248	55.0	13,991	53.5	13,226	48.8	13,014	73.7
Pink Salmon	26,303	90.6	73,478	92.4	22,744	87.3	150,243	92.4	55,156	93.4	63,903	94.1
Chum Salmon	26,195	89.1	38,551	94.1	34,526	91.5	52,196	93.7	49,112	93.5	65,232	94.8
Landlocked Salmon	2,578	95.3	438	26.9	2,079	66.2	1,145	27.4	0		40	100.0
Lake Trout	1,125	83.2	535	59.4	1,766	87.4	512	69.9	992	77.2	1,497	93.1
Dolly Varden	6,736	86.5	8,119	89.1	8,854	89.6	12,492	93.4	9,205	87.3	11,123	86.4
Rainbow Trout	34,742	93.3	26,241	96.3	39,753	95.6	42,603	96.4	32,904	96.6	80,190	97.8
Arctic Grayling	15,288	90.9	15,487	90.9	13,324	87.9	14,686	93.3	13,785	92.5	23,520	95.0
Whitefish	484	93.4	660	85.5	242	86.8	955	94.6	482	72.0	655	89.8
Northern Pike	795	88.1	130	0.0	441	41.0	308	67.2	776	92.9	647	4.5
Burbot	573	46.9	470	55.7	503	54.3	457	47.0	357	40.1	351	39.9
Smelt	0		0		9,816	0.0	7	100.0	2,249	40.0	0	
Other	221	62.0	17	0.0	53	100.0	1,696	100.0	453	60.5	397	92.2
Total	184,499	79.5	243,293	78.8	236,319	72.0	400,017	81.1	275,795	78.5	360,720	85.1

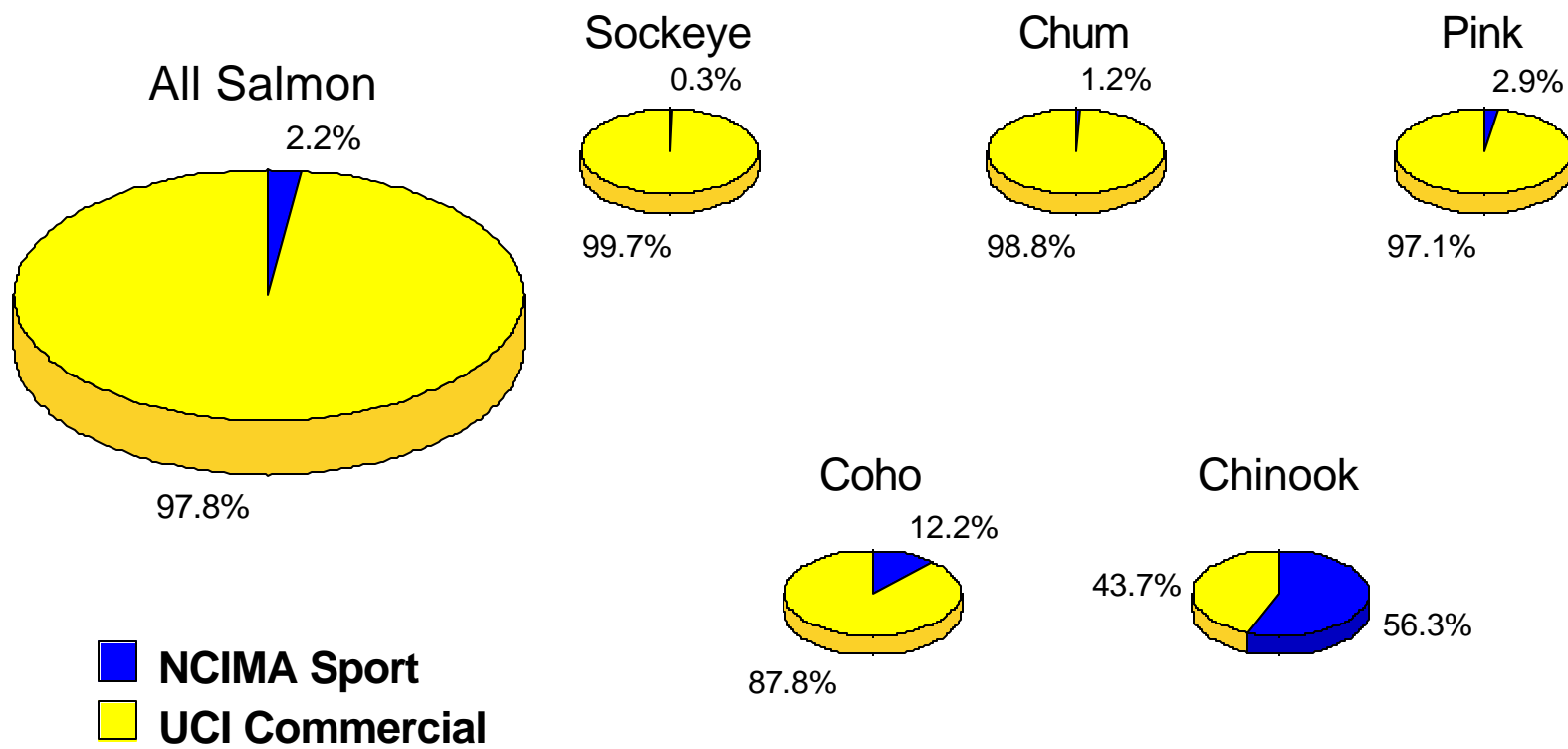
Table 14.-Percent of fish released by recreational anglers in the Westside Susitna River and West Cook Inlet areas, 1997-2002.

	1997		1998		1999		2000		2001		2002	
West Susitna River	Catch	Percent Released	Catch	Percent Released	Catch	Percent Released	Catch	Percent Released	Catch	Percent Released	Catch	Percent Released
Chinook Salmon	33,112	76.4	29,038	66.5	43,996	72.4	51,719	66.5	43,972	68.4	29,920	62.0
Coho Salmon	17,685	59.7	24,168	45.2	34,642	48.1	53,504	56.5	48,740	60.6	41,669	66.1
Sockeye Salmon	10,935	71.6	4,975	50.5	12,194	56.7	9,864	49.9	13,549	53.4	6,881	72.7
Pink Salmon	6,577	88.9	16,430	90.3	11,368	94.9	52,905	95.9	10,926	90.2	21,009	96.7
Chum Salmon	7,753	87.2	6,519	94.0	8,690	95.2	8,594	93.1	4,988	91.2	13,253	97.2
Landlocked Salmon	0		0		0		0		0		0	
Lake Trout	575	45.9	133	65.4	614	88.3	71	15.5	314	89.2	694	100.0
Dolly Varden	2,025	87.7	1,965	93.8	2,650	90.0	4,235	87.4	3,353	90.9	3,416	90.6
Rainbow Trout	30,217	95.2	17,370	93.8	37,864	95.1	29,398	95.8	27,697	97.3	29,745	95.9
Arctic Grayling	17,679	95.2	8,519	88.4	9,618	92.6	13,978	95.2	13,216	95.6	15,802	97.0
Whitefish	106	83.0	456	75.0	489	80.6	447	68.9	740	85.0	365	79.7
Northern Pike	16,266	75.2	17,928	79.1	14,348	74.3	27,381	86.5	25,147	78.2	18,450	68.2
Burbot	1,099	21.7	1,207	14.7	859	21.8	1,797	37.1	371	34.0	441	79.4
Smelt	8,515	0.0	5,795	0.0	29,071	7.0	6,139	10.5	8,729	0.3	4,667	29.3
Other	456	81.4	5	0.0	0		22	50.0	0		308	23.4
Total	153,000	76.4	134,508	70.0	206,403	65.7	260,054	76.4	201,742	71.7	186,620	78.5
West Cook Inlet												
Chinook Salmon	3,216	72.2	2,712	74.4	2,900	63.0	3,891	70.1	3,406	78.8	6,166	80.1
Coho Salmon	11,700	44.5	12,632	35.4	11,977	22.0	22,931	48.9	24,677	43.5	32,516	58.9
Sockeye Salmon	4,872	55.4	7,144	64.7	5,031	40.6	9,245	54.1	6,477	51.4	4,465	54.8
Pink Salmon	453	91.8	336	77.7	786	70.0	2,733	98.9	1,606	93.7	1,336	81.2
Chum Salmon	901	96.3	250	100.0	673	81.9	1,111	96.5	2,105	88.0	1,097	99.1
Landlocked Salmon	0		0		0		0		0		0	
Lake Trout	0		7	0.0	0		238	76.9	86	80.2	7	0.0
Dolly Varden	1,836	56.4	1,542	80.5	2,937	68.5	3,638	62.5	3,499	87.9	3,665	86.5
Rainbow Trout	2,371	73.9	1,576	88.0	2,617	89.4	2,793	92.4	3,341	91.9	3,082	92.3
Arctic Grayling	688	62.8	428	87.9	307	78.5	735	88.6	1,170	96.8	106	93.4
Whitefish	68	0.0	0		0		28	75.0	15	100.0	18	100.0
Northern Pike	75	40.0	321	92.2	334	72.2	234	63.2	1,042	36.6	284	58.1
Burbot	0		0		0		12	100.0	0		0	
Smelt	2,703	87.5	2,581	0.0	0		477	57.2	0		0	
Other	0		119	100.0	24	100.0	11	100.0	22	100.0	0	
Total	28,883	59.3	29,648	50.7	27,586	45.2	48,077	60.1	47,446	58.7	52,742	66.3



Source: SWHS, Howe et al. 1996, 2001a-d; Walker et al. 2003; Jennings et al. *In prep* a, b.

Figure 9.-Percent of the recreational catch of all species from the Northern Cook Inlet Management Area that was released, 1995-2002, by management unit.



Source: SWHS, Mills 1979-1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. *In prep* a, b.

Figure 10.-Composition of the Northern Cook Inlet salmon harvest, 1977-2002.

number of nonresident sport fishing licenses sold has surpassed the number of resident licenses (Howe et al. 2001c). Nonresident licenses accounted for 61% of all sport fishing licenses in 1999 and probably represent more than 50% of the present value of sport fisheries.

Table 15.-Estimated economic value of NCIMA sport fisheries during 1986.

Angler Type	Southcentral Alaska			NCI Management Area		
	Angler-Days	Expenditures	\$/Ang-Day	Angler-Days	\$/Ang-Day	Expenditures
Resident	1,153,660	74,163,000	64.29	288,613	64.29	18,555,000
Non-Resident	201,488	52,892,000	262.51	40,380	262.51	10,600,000
Both	1,355,148	127,055,000	^a	328,993	^a	29,155,000

From: Jones and Stokes Associates, Inc. 1987.

^a Value not computed.

The Jones and Stokes survey also provided estimates of the direct expenditures for selected NCIMA fisheries (Table 16). These data indicate that considerable variability exists in amount of money expended by anglers, depending upon the species and location fished. Generally, anglers spent more money fishing for chinook and coho salmon than for hatchery-reared fish stocked into lakes. Anglers also expended more money fishing remote locations than road-accessible locations. It is likely that cost per angler-day has increased substantially (15%-25%) during the decade and a half since this report was completed.

ONGOING RESEARCH AND MANAGEMENT ACTIVITIES

The following are the major programs being initiated, ongoing, or being curtailed in the NCIMA:

1. Escapement studies to assess returns of chinook and coho salmon in selected Northern Cook Inlet streams.
2. Creel and escapement studies to assess Willow Creek chinook salmon hatchery enhancement.
3. Collection of chinook salmon eggs from Deception Creek for Willow Creek hatchery enhancement and from Ship Creek to develop a fishery at the Eklutna Tailrace.
4. Collection of coho salmon brood stock from the Eklutna Tailrace for enhancement of the Eklutna Tailrace.
5. Assessment of Willow Creek wild and hatchery chinook salmon marine interception and inriver return. Fieldwork completed in 2002; Fishery Data Series report now being written.
6. Assessment of the return of chinook and coho salmon to the Deshka River.
7. Evaluation of marine interception of coho salmon in the UCI commercial fishery, based on coded wire tagged recoveries of hatchery and wild stocks.

Table 16.-Economic value for selected NCIMA sport fisheries during 1986.

Fishery	Resident Angler Dollars	Non-Resident Angler Dollars	Total
Little Susitna River			
Chinook Salmon Fishing	794,000	666,000	1,460,000
Coho Salmon Fishing	312,000	397,000	709,000
Combined	1,106,000	1,063,000	2,169,000
West Susitna River/WCI			
Chinook Salmon Fishing	2,480,000	2,569,000	5,049,000
Coho Salmon Fishing	278,000	363,000	641,000
Combined	2,758,000	2,932,000	5,690,000
East Susitna River			
Chinook Salmon Fishing	435,000	507,000	942,000
Coho Salmon Fishing	161,000	195,000	356,000
Combined	596,000	702,000	1,298,000
Lake Creek (all species)	541,000	322,000	863,000
Kepler Lake Complex			
Rainbow Trout Fishing	162,000	2,000	164,000
Big Lake			
Rainbow Trout Fishing	214,000	40,000	244,000
All Sites	\$5,377,000	\$5,061,000	\$10,438,000

From: Estimated in Jones and Stokes Associates, Inc. 1987.

8. Escapement studies to assess returns of coho salmon and sockeye salmon to the Little Susitna River, Cottonwood, Wasilla and Fish creeks and chum salmon to the Little Susitna River.
9. Evaluation of the effects of regulations requiring slot limits for northern pike harvest in Alexander Lakes.
10. Inventory and cataloging of rainbow trout populations in the Susitna River drainage.

We anticipate that emphasis among these programs will change over time, with programs being reduced or curtailed as findings are obtained and as new priorities are established.

Routine management activities that occur in the NCIMA include:

1. Participation in the BOF process, including local advisory committees.
2. Fishery monitoring and inseason fishery management.
3. Involvement with the public regarding fishery issues.
4. Enforcement of fishing regulations, reviewing regulation booklets annually and providing regulatory signs.
5. Habitat monitoring and permit review (Appendix K1).
6. Evaluating stocked lakes and conducting annual fish stockings.
7. Aquatic education.
8. Providing input on public access issues.

MAJOR BIOLOGICAL AND SOCIAL ISSUES FOR NCIMA

There are several major biological and social issues associated with the NCIMA that affect area fisheries. Issues of importance that were discussed in the 1993-1996 area management reports (AMR) for recreational fisheries of Northern Cook Inlet (Whitmore et al. 1993, 1994, 1995, 1996, Whitmore and Sweet 1997) are:

1. Willow Creek State Recreational Area.
2. Timber development.
3. Improved or expanded access.
4. Development of coal reserves.
5. Allocation.
6. Regulation enforcement.
7. Susitna River Basin Recreation Rivers Management Plan (ADNR 1991).
8. Little Susitna River coho salmon stocking and weir operation.
9. The effects of an increasing population on a finite resource.

Current issues that affect NCIMA fisheries are included within Section II, Major Fisheries Overview.

FISHERIES ACCESS IMPROVEMENTS

Providing new and upgrading existing angler access in order to increase fishing opportunities in NCIMA fisheries is an ongoing concern. Efforts are directed at a few stocked lakes each year. Proposed projects are listed in Table 17. Table 18 summarizes access to NCIMA stocked lakes. Appendix I lists completed access projects.

Current projects include:

1. Signage identifying public access on an as-needed basis. Also providing small road, trail, and site maintenance on an as-needed basis.
2. Wolverine Lake land purchase. The State of Alaska Mental Health Trust Land Office (MHTLO) owns the parcels and is interested in selling to ADF&G. The property provides needed public access to native rainbow trout fishery on the lake. We need to get survey and appraisal services and complete Federal Aid grant proposal. Plans are to get capitol funding to start the process in FY04/FY05.
3. Bonnie Lake land purchase. The State of Alaska Mental Health Trust Land Office owns the parcels (~30.7 acres) and is interested in selling to ADF&G. Property provides needed public access to native rainbow trout fishery on the lake. ADF&G has complete Federal Aid grant proposal, need to get survey and appraisal services completed. Plans are to get capitol funding to start the process in FY04.
4. Horseshoe Lake (near Big Lake) land purchase. Small parcel (~1 acre) that is owned by the MHTLO. The site contains a small parking area and gravel boat ramp and the property provides access to the lake. MHTLO is interested in selling all surrounding property they own, but would like to keep this site open to the public and is therefore interested in selling it to ADF&G. The Mat/Su Borough is not interested in purchasing the property. However, the Borough has indicated that if ADF&G buys the land, the Borough will provide oversight and management (O&M) responsibilities. MHTLO is conducting the survey and appraisal services. Plans are to get capitol funding to start the process in FY04.
5. Little Susitna River Public Use Facility. A Coastal Impact Assistance Grant was awarded to the Access Program for construction of an ADA (Americans with Disabilities Act) accessible fishing platform located downstream of the boat ramp area. This platform will provide fishing access for anglers with disabilities as well as protecting a recently restored/revegetated section of riverbank. Plans are to complete construction of the platform by August 2004.
6. Eklutna Tailrace improvements. This popular fishing area is growing in use. This project will provide a multitude of access improvements including improved roads, trails, parking, ADA accessible fishing platforms, barricades, gate and toilets. Department of Natural Resources, Division of Parks and Outdoor Recreation (DNR DPOR) will provide design, engineering, and contracting services under a reimbursable service agreement (RSA) from ADF&G. It appears that funding may be available as soon as FY04.
7. Talkeetna Boat Launch. A shift in the flow of the Talkeetna River's main channel and flow to the side channel that provides water to the launch has resulted in decreased water flow and increased sediment deposition and erosion in the area of the boat ramp. The long-term solution for this

Table 17.-Proposed access projects for NCIMA in 2004.

	Location	Project/Manager ^b	Estimated Cost	Funding Year ^b
	Non-Boating Projects ^a			
1.	Region II Small Access Maintenance	Site maintenance contracts, signage, road grading & repair, and miscellaneous repair.	\$35,000	FY04
2.	Eklutna Tailrace	Preliminary development of proposed access project. Includes parking expansion, ADA fishing platforms, trails, bridge, gate, barriers and toilet improvements. Proposed construction start-up is the spring 04 / fall 05.	\$450,000	CIP FY04/05
3.	Little Susitna River PUF ADA fishing platform	Construct fishing platform over recently restored stream bank downstream of boat ramp - scheduled summer of 2004. DSF & DPOR.	\$69,238	CIAP Grant FY03
4.	Wolverine Lake access parcels	Purchase two lake-front parcels from MHTLO (~6.25 acres) to insure continued public access to lake. This project will be ½ boating and ½ non- boating funded. Cost ~\$40K total.	\$20,000	CIP FY04/05
5.	Stocked lakes access	Construct access improvements at 2 to 5 lakes. Improvements may consist of docks, stairs and walkways.	\$15,000	SAM FY04
		TOTAL	\$589,238	
	Boating Projects ^a			
1.	Region II Small Access Maintenance	Road and site maintenance	\$14,000	SAM FY04
2.	Little Susitna River Public Use Facility	RSA to fund State Parks for LSPUF operation.	\$55,000 ^c	SAM FY04
3.	Horseshoe Lake (Big Lake area) access	Purchase one parcel (~1 acre) currently owned by the MHTLO to insure continued public access to lake. Small parking lot and gravel boat ramp already exists. Working with MSB to provide maintenance.	\$65,000	CIP FY04/05
4.	Wolverine Lake access parcels	Purchase two lake-front parcels from MHTLO (~6.25 acres) to insure continued public access to lake. This project will be ½ boating and ½ non-boating funded. Cost ~\$40K total.	\$20,000	CIP FY04/05
5.	Bonnie Lake access site	Purchase two lake-front parcels from MHTLO (~30.7 acres) to insure continued public access to lake.	\$50,000+	CIP FY04/05
		TOTAL	\$174,000	

^a Completed access projects are listed in Appendix I.

^b ADA = Americans with Disabilities Act
CIAP = Coastal Impact Assistance Program
CIP = Capitol Improvement Project
DPOR = Division of Parks and Outdoor Recreation
DSF = Division of Sport Fish
LSPUF = Little Susitna Public Use Facility
MHTLO = State of Alaska Mental Health Trust Land Office
MSB = Mat-Su Borough

^c RSA - Reimbursable Service Agreement amount fluctuates year-to-year depending on revenue receipt income received

Table 18.-Northern Cook Inlet Management Area stocked lakes access summary.

LAKE	ACCESS ROUTE	EASEMENT ^a CLASSIFICATION	PARKING AREA	TRAIL CONDITION	% PUBLIC SHORELINE	COMMENTS
Barley	needs sign	PUE	5 vehicle gravel	cleared section line	1%	100 yd. walk in
Bearpaw	good	PUA	5 vehicle gravel	gravel road to lake	50%	designated public park in plat maps
Benka	good	PUA	2 vehicle gravel	access rd. ends at lake	0.5%	not legal; no camping
Beverly	good	S/L (33')	5 vehicle gravel	swampy, ATV or foot access	15%	needs sign at "Y" in trail; State land
Big	good	SRA	20 vehicle gravel	concrete boat launches	2%	2 State Rec. Sites; camping
Big No Luck	canoe trail	SRA	15 vehicle gravel	canoe trail: 1.5 miles	100%	Nancy Lake SRA; camping
Bruce	good	PUE (60')	5 vehicle gravel	cleared easement	1%	shoreline muskeg; improve parking
Canoe	good	SRA	6 vehicle gravel	packed gravel	21%	dock, picnic tables, outhouse; K/B Rec.
Carpenter	last mile is 4WD	PUE (150')	3 vehicle, dirt	access rd. ends at lake	0.7%	needs upgrade
Christiansen	needs sign	MSB park	6 vehicle gravel	access rd. ends at lake	0.4%	gravel boat launch; no camping
Coyote	good	PUA	2 vehicle gravel	good	100%	borough blocked rd. access to park
Crystal	needs sign	PUE (60')	10 vehicle gravel	access rd. ends at lake	0.4%	vehicle access blocked; no camping
Dawn	good	PUA	8 vehicle gravel	needs boardwalk	5%	designated public park: Tract C
Diamond	good	S/L (50')	6 vehicle gravel	foot trail	36%	100 yd. walk in
Echo	good	Rd. ROW	4 vehicle paved pull-out	signed, gravel	15%	shoreline trees, brush; pvt campground
Farmer	good	S/L	5 vehicle gravel	needs better signing	1%	shoreline muskeg; improve parking
Finger	good	SRA	30 vehicle gravel	access rd. ends at lake	5%	State Rec. Site, camping
Florence	good	S/L (66')	limited to road ROW	good	0.8%	improve parking; no camping
Homestead	need signs	ROW Ease. (50')	limited to access rd.	access rd. ends at lake	1%	shoreline swampy; no camping
Honeybee	need signs	PUA	limited to access rd.	needs work, swampy	6%	access road is not public; adj. State land
Ida	need signs	PUE (20')	4 vehicle gravel	steep, gravel	0.1%	no camping
Irene	good	SRA	4 vehicle gravel	gravel	15%	K/B Rec. Area
Kalmbach	good	S/L	5 vehicle gravel	swampy, ATV or foot access	20%	need sign at "Y" in trail; adj. State land
Kashwitna	good	Rd. ROW	30 vehicle paved	access is by lake	10%	shoreline muskeg along ROW
Kepler/Bradley	good	SRA	30 vehicle gravel	marked, gravel	89.5%	private camping
Klaire	good	SRA	30 vehicle gravel	.4 mile; needs sign	100%	brushy shoreline; K/B Rec. Area
Knik	good	PUA	2 vehicle gravel	access rd. ends at lake	0.6%	no camping

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Table 18.-Page 2 of 3.

LAKE	ACCESS ROUTE	EASEMENT ^a CLASSIFICATION	PARKING AREA	TRAIL CONDITION	% PUBLIC SHORELINE	COMMENTS
Lalen	good	PUE (20')	2 vehicle gravel	access rd. ends at lake	0.2%	gravel boat launch; no camping
Long (Mile 86)	good	SRA	15 vehicle gravel	access rd. ends at lake	90%	State Rec. Site; camping
Long (K/B)	good	SRA	7 vehicle gravel	packed dirt, steep	100%	hook-&-release only; K/B Rec. Area
Little Lonely	need signs	S/L	limited to road ROW	short, dirt road	0.5%	access rd. can be 4WD; no camping
Lorraine	need signs	MSB property	6 vehicle gravel	muddy, rutted by 4WD	95%	surrounded by borough land
Loon	good	S/L (50')	5 vehicle gravel	access rd. ends at lake	0.4%	no camping
Lucille	good	PUE	3 vehicle gravel	access rd. ends at lake	4%	2 access sites; camping at Lucille Park
Lynne	need signs	PUA	2 vehicle dirt	access rd. ends at lake	2%	access rd. is not public; 2% is State land
Marion	good	PUA	4 vehicle gravel	steep dirt, some erosion	12%	adj. to MSB land
Matanuska	good	SRA	30 vehicle gravel	short gravel	35%	docks, picnicking, outhouse; K/B Rec. Area
Meirs	good	PUE	8 vehicle, can be muddy	steep, dirt	1%	no camping
Memory	good	S/L (33')	4 vehicle, gravel	access rd. ends at lake	0.3%	no camping
Mile 180	need sign	Rd. ROW	10 vehicle, paved pullouts	pullouts beside lake	40%	lakeshore muskeg
Morvro	need signs	S/L (33')	limited to rd. ROW	swampy, foot trail	0.3%	needs work with trail & parking
North Friend (Montana)	good	Rd. ROW	10 vehicle gravel cross Parks	short trail to outlet	0.5%	access Parks ROW
Prator	good	PUA	4 vehicle gravel	access rd. ends at lake	2%	Castle Public Park; no camping
Ravine	needs sign	PUA	4 vehicle gravel	steep, worn	50%	adj. State land
Reed	good	PUE (10')	limited to rd. ROW	ends in drop-off	0.2%	improve parking; no camping
Rocky	good	SRA	30 vehicle gravel	access rd. ends at lake	5%	State Rec. Site; camping
Ruby	ATV, no signs	Trail Easement (50')	15 vehicle gravel	5 mile ATV trail	40%	new surveyed trail, adj. state land
Seventeenmile	need signs	PUA	8 vehicle gravel	access rd. ends at lake	0.6%	need no camping signs
Seymour	good	S/L (83')	4 vehicle gravel	access rd. ends at lake	0.5%	MSB land adjacent
Slipper (Eska)	good	Rd. ROW	20 vehicle gravel	access rd. ends at lake	75%	last 1/4 mile rough
South Friend (Montana)	good	Rd. ROW	10 vehicle gravel	short, dirt	10%	shoreline swampy along ROW
South Rolly	good	SRA	20 vehicle gravel	access rd. ends at lake	100%	State Rec. Site; camping
Tigger	needs sign	PUE	5 vehicle gravel	foot trail, needs sign	100%	new access being acquired from MSB

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Table 18.-Page 3 of 3.

LAKE	ACCESS ROUTE	EASEMENT ^a CLASSIFICATION	PARKING AREA	TRAIL CONDITION	% PUBLIC SHORELINE	COMMENTS
Vera	good	S/L (50')	6 vehicle dirt	soft tundra	0.3%	no camping
Twin Island	needs signs	State prop.	4 vehicle gravel	swampy	0.6%	MSB prop conflict/ mental health land
Victor	good	SRA	30 vehicle gravel	dirt, some mud	100%	brushy shoreline; K/B Rec. Area
Visnaw	need sign	S/L	3 vehicle gravel	access rd. ends at lake	0.4%	no camping
Walby	good	PUA	6 vehicle gravel	access rd. ends at lake	1%	no camping
Wiener	good	Rd. ROW	(2) 4 vehicle pullouts	pullouts beside lake	25%	access along Glenn Hwy.
West Sunshine	good	PUE (20')	4 vehicle gravel	steep, dirt	0.4%	no camping
Willow	good	S/L (50')	30 vehicle gravel	access rd. ends at lake	0.4%	access by Willow Comm. Center
Wishbone	needs signs	State prop.	4 vehicle dirt	rough 4WD only	100%	hook-&-release only, State land
Wolf	good	SRA	10 vehicle gravel	short dirt	33%	SRA; camping
"X"	good	State prop.	2 vehicle dirt	need boat	100%	hook-&-release only; State land
"Y"	good	Rd. ROW	2 vehicle dirt	short, steep	100%	brushy, State land

^a ROW = right of way

S/L = section line easement (feet wide)

PUA = dedicated (or reserved) public use area (parcel platted for public recreation)

PUE = dedicated public use easement (feet wide)

SRA = state recreation area (parcel managed by State Parks)

MSB = Matanuska Susitna Borough

project would consist of dredging in the area of the mouth (debris field) of the side channel to increase water volume in order to help decrease sediment loading and allow for more mooring space. Work was conducted in the spring and fall of 2003. Plans are to continue to conduct the work annually in either early spring or late fall dependent on water conditions and levels. The scope of the project will be reviewed by the required permitting agencies.

There are several State Recreation Sites along the road system of the NCIMA. State Recreation Sites are on state lands that are managed by the Department of Natural Resources, Division of Parks and Outdoor Recreation (DPOR). These sites all allow day use with the majority providing camping opportunities. Most of these sites require fee payment for facility use. At the majority of the State Recreation Sites adjacent to lakes and streams Sport Fish Restoration money was used for development of parking areas and boat ramps. It is appropriate to use access funds in maintaining and improving these facilities as they provide outstanding opportunities to people in pursuit of power boating and recreational fishing activities.

1. Nancy Lake. The Nancy Lake State Recreation Site, on the northeast shore of Nancy Lake, is within the Nancy Lake State Recreation Area (SRA). It contains 30 camping sites and a cement

boat launch ramp with a dock. Nancy Lake is one of the larger lakes in the NCIMA and supports a significant amount of powerboat activity. The launch ramp is old and needs to be upgraded to a double lane boat ramp. Additionally, the dock associated with this ramp needs to be upgraded and a new fishing dock installed. Upgrading this facility is not expected to significantly increase power boating and angling; however, it is expected to curtail a significant drop in participation.

2. Willow Creek SRA is a non-boating facility where use levels are expected to exceed capacity. ADNR, DPOR has developed a draft plan to expand an underdeveloped day-use parking area and enhance an interconnected trail system. This action will effectively accommodate overflow parking and expand the bank fishing area while controlling habitat degradation.

INFORMATION AND EDUCATION PROGRAM

As one of the original aquatic education tools, classroom salmon egg incubation activities have long been the backbone of the educational effort in Southcentral Alaska. This classroom program enables students, teachers and parents to witness and monitor the early development of a salmon from egg to fry and focuses on increasing awareness of salmonid life history including biology, anatomy and habitat requirements.

Since the educational program's origin at the Big Lake Hatchery in 1991 (Kraus 1999) Matanuska-Susitna Valley school participation has grown from 5 to 21 schools. In late September classes participate in a coho salmon egg take at Spring Creek with almost 1,000 students attending in 2003. Here they witness the beginning of life for a salmon and collect up to 250 fertilized eggs, which they transport to their classroom aquarium and monitor throughout the winter. Presently most schools use 29-gallon aquariums with under gravel filter plates, powerheads, aquarium gravel, and 1-inch Styrofoam insulation, refrigerated with a chiller unit, while a few schools still depend on 1-gallon aquariums placed inside a refrigerator to chill the water. The eggs eventually hatch and develop into fry at which point the class receives salmon food from the Fort Richardson Hatchery. The fry are then released in mid-May into landlocked Matanuska Lake near Palmer.

On May 13, 2003, the fourth annual salmon celebration was held at Matanuska Lake. This included salmon fry released by all the incubation program participants plus other district-wide K-6 grade classes not participating in the incubation program. Workshops were held for fly tying, watershed modeling, spin and fly casting, macroinvertebrate identification, salmon life cycle, fish puzzles, fish identification, wildlife tracks identification, wildlife skulls and furs, and water safety, plus students were able to release catchable rainbow trout provided by the Fort Richardson Hatchery. Over 1,200 students participated in the event with 75 Teeland Middle School students and 10 Wasilla High School students assisting at the booths and mentoring the younger students.

January 16 and 17, 2003 marked the sixth annual ice-fishing event, held on Finger Lake. Thirty classes, kindergarten to 8th grade, from 12 Mat-Su Borough schools participated in the event resulting in 820 students catching king salmon, rainbow trout, Arctic char and Arctic grayling. Twenty-five students caught their first fish and were awarded a First Fish Certificate.

In January and February 2000, fly tying became part of the incubation program for the Anchorage schools. Participating students learned to tie flies representing the four stages observed in incubators: egg, eyed egg, alevin and fry. Fly tying was a success and has been expanded to include the

Matanuska-Susitna incubation programs. In 2003, over 900 students from 40 classes from the Mat-Su School District have participated.

Fish dissections have become an integral part of the program with 43 classes of 1,047 students participating in 2003.

Making presentations is one of the more conventional means of getting information out to interested groups. Activities may include fish dissections, watershed model demonstrations or design-a-fish games. Other related topics presented include: salmon life histories, biology, habitat requirements, anatomy, coded wire tag demonstrations, stream ecology, career opportunities, hatchery enhancement and fishing.

Appendix N1 contains a summary of classroom visits, presentations, egg takes, ice fishing and fly tying sessions for the entire Southcentral region in 2003. During this year over 90 presentations were made in the Mat-Su area addressing 5,765 individuals. Of these 75% were conducted for elementary age children, 20% to middle school students, 3% to high school students and 2% to adult groups.

SECTION II: MAJOR FISHERIES OVERVIEW

CHINOOK SALMON FISHERIES

Chinook salmon runs to the NCIMA collectively comprise the largest stock of this species within the entire Cook Inlet drainage. Within the management area, the Susitna River supports the largest stock of chinook salmon. The Susitna River stock is considered to be the fourth most abundant in Alaska, smaller than only the Yukon, Kuskokwim and Nushagak river stocks (Delaney and Vincent-Lang 1992). Although estimates of total return are unavailable for Northern Cook Inlet (NCI) chinook salmon (largely due to our inability to thoroughly estimate spawning escapement), the collective annual return is believed to number from 100,000 to 200,000 fish (Delaney and Vincent-Lang 1992).

Harvests of NCI chinook salmon varied from 11,000 to 70,000 from 1893 through 1940, averaging about 38,500 fish (Table 19). This harvest level of NCI chinook salmon appears to be sustainable, considering it was maintained for over a half century. After harvest levels increased from 1940 to 1952 to an average of 84,500 annually, a steady decline in harvests occurred until fisheries were closed to allow stocks to rebuild (Figure 11). This history suggests that the maximum sustainable harvest range for NCI chinook salmon is between 38,500 and 70,000 fish.

In 1976, the Magnuson Fishery Conservation and Management Act was established. This act, sometimes known as the 200-mile limit law, extended federal fishery management authority into waters within 3 to 200 miles from the United States coast. Its effects on Cook Inlet chinook salmon are not fully understood; however, it seems likely that the act and its associated fishery management plans increased chinook salmon returns to NCI.

A variety of users have historically harvested the chinook salmon returns to the NCIMA, including recreational, commercial and subsistence/personal use fishermen (Table 20). However, harvest strategies for NCI chinook salmon have changed substantially since the 1890s. The fishery has slowly evolved from a mixed-stock commercial harvest to a recreationally dominated harvest that targets a multitude of discrete substocks. A detailed user history is documented in Whitmore et al. 1993.

Beginning in 1975 and continuing through 1990, recreational fisheries targeting the NCI chinook salmon runs were gradually expanded to allow use of increasing returns. The Upper Cook Inlet Salmon Management Plan, adopted as policy by the Alaska Board of Fisheries in 1977, has guided these expansions. This plan (5 AAC 21.363), as it relates to NCI chinook salmon stocks, originally stipulated that those stocks normally moving through Upper Cook Inlet to spawning grounds prior to July 1 are to be managed primarily for recreational uses. Therefore, recreational fisheries were expanded and currently constitute the largest harvests. In 1986 the Alaska Board of Fisheries adopted the Northern District King Salmon Management Plan (5 AAC 21.366). This step-down plan allows for a harvest up to 12,500 chinook salmon by a commercial setnet fishery in the Northern District during June. The plan was adopted to allocate a portion of the increasing NCI chinook salmon returns to the commercial fishery.

Under these plans, total harvest of NCI chinook salmon increased through 1993 with harvests during 1986 through 1993 ranging from 40,300 to 54,300 (Table 19). Mean and peak harvest of NCIMA chinook salmon in recreational fisheries from 1986 through 1993 were 34,604 and 49,387 fish, respectively (Table 7) (Mills 1987-1994). Sport harvests decreased substantially in 1995 but have

Table 19.-Estimated harvests, by all user groups, of chinook salmon of Northern Cook Inlet origin, 1893-2002.

Year	Harvest ^a	Year	Harvest ^a	Year	Harvest ^a
1893	24,000	1935	60,060	1977	5,446
1894	12,400	1936	64,850	1978	4,430
1895	20,159	1937	68,786	1979	9,837
1896	14,461	1938	46,130	1980	11,301
1897	11,266	1939	42,181	1981	11,372
1898	13,111	1940	50,413	1982	17,121
1899	13,682	1941	83,858	1983	18,706
1900	21,346	1942	76,144	1984	23,996
1901	27,455	1943	89,105	1985	25,842
1902	39,210	1944	68,168	1986	43,192
1903	52,818	1945	55,362	1987	40,335
1904	24,058	1946	51,425	1988	44,153
1905	14,134	1947	85,443	1989	50,981
1906	17,936	1948	84,797	1990	42,430
1907	50,355	1949	89,025	1991	43,397
1908	27,019	1950	130,274	1992	52,788
1909	47,699	1951	150,010	1993	54,335
1910	39,222	1952	59,600	1994	36,189
1911	44,676	1953	71,544	1995	22,963
1912	38,293	1954	52,260	1996	22,961
1913	50,922	1955	37,199	1997	24,495
1914	38,043	1956	52,248	1998	28,906
1915	67,034	1957	34,214	1999	40,983
1916	50,316	1958	18,278	2000	40,176
1917	52,399	1959	26,226	2001	37,215
1918	27,909	1960	22,031	2002	31,196
1919	19,041	1961	15,822		
1920	31,650	1962	16,216		
1921	11,157	1963	14,106		
1922	24,824	1964	3,698		
1923	23,929	1965	7,801		
1924	21,610	1966	815		
1925	40,826	1967	623		
1926	60,496	1968	1,163		
1927	69,923	1969	3,927		
1928	55,908	1970	1,853		
1929	54,155	1971	10,494		
1930	57,854	1972	5,748		
1931	41,122	1973	246		
1932	56,745	1974	238		
1933	47,425	1975	301		
1934	57,903	1976	692		

^a Source of data: 1893-1968 Delaney and Vincent-Lang 1992; 1969-2001 Fox and Shields 2002, Mills 1979-1994, Howe et al. 1995, 1996, 2001 a-d, Walker et al. 2003, Jennings et al. *In prep* a, b.

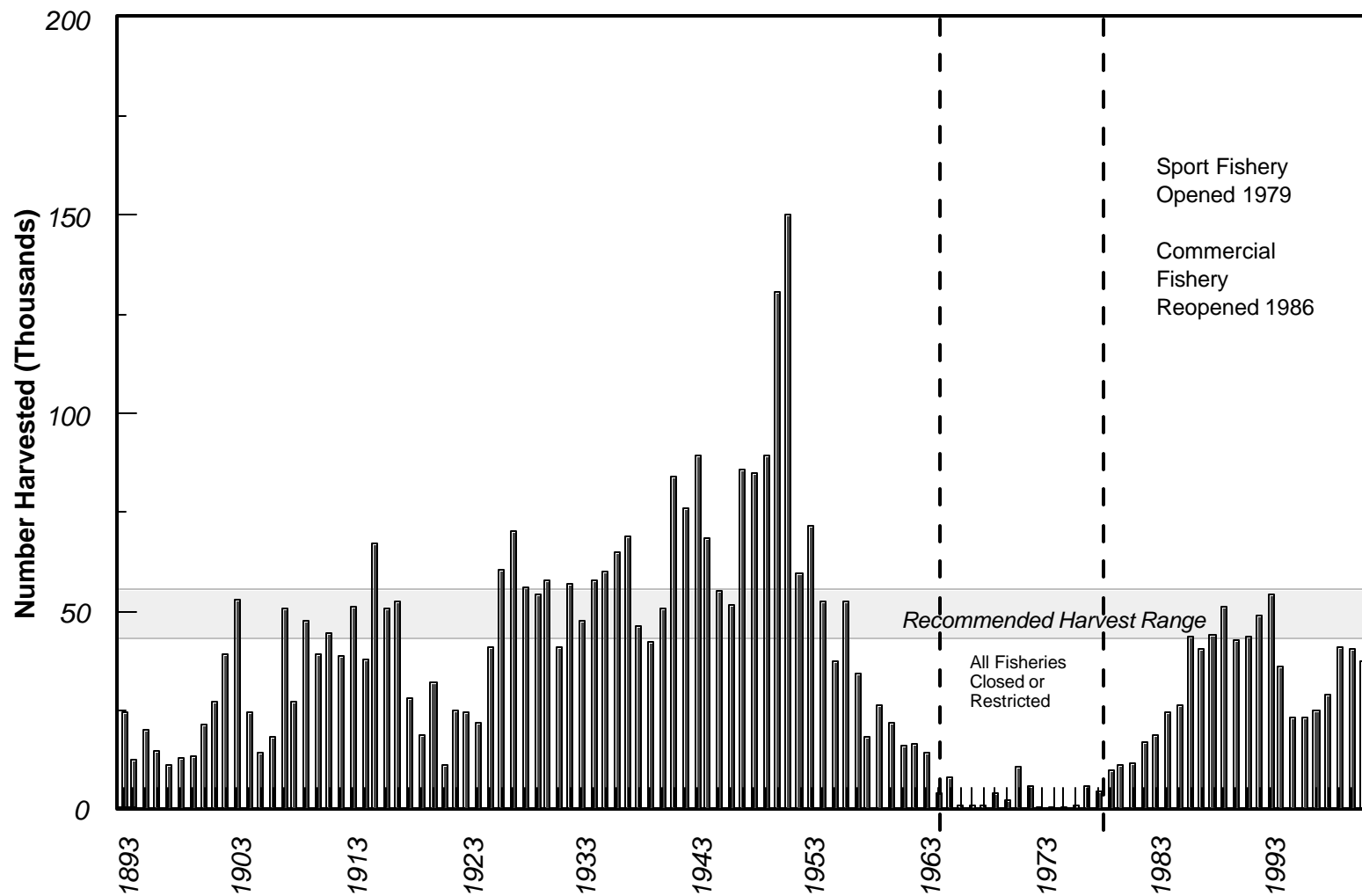


Figure 11.-Estimated harvests by all user groups of chinook salmon of Northern Cook Inlet origin, 1893-2002.

Table 20.-Northern Cook Inlet Management Area-origin chinook salmon estimated harvests, 1977-2003.

Year	Commercial ^a			Recreational ^b					Subsistence ^d	Grand Total
	NCI ^c	Kustatan	Total	Knik Arm Drainages	Eastside Susitna	Westside Susitna	West Cook Inlet	Total		
1977	565	207	772	207	1,056	2,938	473	4,674		5,446
1978	666	221	887	140	886	2,039	478	3,543		4,430
1979	1,714	159	1,873	800	1,298	5,768	98	7,964		9,837
1980	993	174	1,167	646	1,370	6,148	34	8,198	1,936	11,301
1981	725	43	768	1,466	2,202	4,742	192	8,602	2,002	11,372
1982	2,716	391	3,107	1,666	2,063	8,573	147	12,449	1,565	17,121
1983	933	163	1,096	1,255	2,852	9,568	1,185	14,860	2,750	18,706
1984	1,004	214	1,218	2,057	4,428	12,106	1,833	20,424	2,354	23,996
1985	1,890	211	2,101	1,889	4,342	13,644	2,029	21,904	1,837	25,842
1986	15,488	308	15,796	1,524	8,569	13,402	2,378	25,873	1,523	43,192
1987	12,701	176	12,877	2,476	8,603	13,350	1,477	25,906	1,552	40,335
1988	12,836	123	12,959	2,916	9,139	15,970	1,695	29,720	1,474	44,153
1989	12,731	1,144	13,875	4,341	9,783	19,343	2,325	35,792	1,314	50,981
1990	9,582	1,084	10,666	2,022	9,423	17,425	2,097	30,967	797	42,430
1991	6,859	925	7,784	2,277	9,083	21,836	762	33,958	1,655	43,397
1992	4,554	964	5,518	3,969	21,307	18,737	1,213	45,226	2,044	52,788
1993	3,277	424	3,701	3,602	22,688	21,142	1,955	49,387	1,247	54,335
1994	3,185	449	3,634	4,303	14,970	10,248	1,583	31,104	1,451	36,189
1995	4,130	198	4,328	1,707	7,872	6,265	693	16,537	2,098	22,963
1996	1,945	145	2,090	1,579	11,023	5,879	1,358	19,839	1,032	22,961
1997	1,120	113	1,233	2,938	10,989	7,799	894	22,620	642	24,495
1998	2,471	83	2,554	2,031	10,472	9,716	693	22,912	886	28,906
1999	2,657	776	3,433	2,724	16,875	12,131	1,073	32,803	1,314	40,983
2000	2,226	759	2,985	2,824	11,774	17,341	1,163	33,102	1,104	40,176
2001	2,210	712	2,922	2,255	13,504	13,914	722	30,395	976	37,215
2002	1,473	439	1,912	3,195	10,695	11,357	1,227	26,474	898	31,196
2003	1,159	445	1,604	Not Available					973	

^a Fox and Shields 2003.

^b Mills 1979-1994; Howe et al. 1995, 1996, 2001a-d, Walker et al 2003, Jennings et al. *In prep* a and b.

^c Northern District total.

^d Source of data is Fox and Shields *In prep*. Includes Tyonek subsistence fishery 1980-2003 and Northern/Central districts subsistence fisheries 1985 and 1991-1993. 1994-1995 data include Northern districts.

increased since then with a 1997-2002 average of approximately 28,000. Mean and peak harvest from the Northern District commercial fisheries, which harvest chinook salmon bound for NCIMA streams, during 1986 through 1993 were 9,753 and 15,488 fish, respectively (Appendix B5). During the period 1994-2001 mean and peak catches dropped to 2,391 and 4,130, respectively (Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003, Jennings et al. *In prep a*).

In response to development of a recreationally dominated harvest that targets a multitude of discrete substocks, escapement goals were established in 1993 for 18 NCIMA chinook salmon spawning streams. These goals have subsequently been revised as new methods have been developed (Bue and Hasbrouck 2001; Table 21). These goals are based on long-term escapement levels and are intended to assure the long-term viability of NCIMA chinook salmon stocks. Spawning escapement is indexed annually using helicopter surveys and weirs. Each of the 18 streams is evaluated according to their individual escapement and corresponding goal. From the late 1970s through 1989, escapement objectives were achieved. However, beginning in 1990, observed spawning escapements in selected streams decreased and in 1992-1995 fell well below desired levels.

In response to returns below escapement goals, action was taken through emergency orders and regulations to reduce harvest levels. As a result of this action the combined harvest of NCI chinook salmon was reduced to approximately half of the 1993 peak harvest (Table 20). Harvests increased in 1999 and have remained nearly constant through 2002. Despite the increased harvest, escapement goals were met or exceeded in nearly all NCIMA streams for these years. Emergency orders that have modified regulations for these fisheries since 1991 are outlined in Appendix D. The regulation history of chinook salmon in Northern Cook Inlet waters is outlined in Appendix E.

Regulations providing for subsistence fisheries and personal use fisheries have changed in recent years as a result of BOF and court actions. Currently there are two subsistence fisheries, two personal use fisheries and two educational fisheries authorized in the NCIMA. Since 1980 a subsistence set gillnet fishery has been authorized at the village of Tyonek as a component of the Upper Cook Inlet Salmon Management Plan. A 4,200 chinook salmon harvest quota presently regulates this fishery; however, the annual harvest has never exceeded 2,700 chinook salmon (Table 22). In addition, the Upper Cook Inlet Subsistence Salmon Management Plan allowed a set gillnet fishery along the west side of northern Cook Inlet extending to Fish Creek during 1985, 1991, 1992 and 1994 (Table 23). In 1995 the BOF, in response to court action closing the fishery, allowed a personal use set gillnet fishery in place of the existing subsistence fishery. The BOF rescinded this fishery during the March 1996 meeting.

The Yentna River Subsistence Salmon Fishery allows the taking of salmon with a fish wheel in the Yentna River downstream of the Skwentna River to Martin Creek. This fishery was implemented as a personal use fishery during the 1996 season. Prior to the 1998 season Supreme Court and BOF action changed this fishery to a subsistence fishery. The Fish Creek Personal Use Fishery currently provides the area's only personal use salmon fishery opportunity. The harvest of chinook salmon is prohibited in both of these fisheries. Educational permits have been issued to the native villages of Eklutna and Knik in 1994-2003 and Tyonek in 1998-2000, to fish salmon of all species. Annual harvests of 0-69 chinook have been reported (Table 47).

Table 21.-Chinook salmon escapement goals for Northern Cook Inlet Management Area waters in 2003.

Drainage	Escapement Goal Range	Type ^a	Method of Survey
<u>Knik Arm Management Unit</u>			
Little Susitna River	900-1,800	SEG	Aerial
<u>Eastside Susitna River Management Unit</u>			
Chulitna River	1,800-5,100	SEG	Aerial
Clear Creek	950-3,400	SEG	Aerial
Goose Creek	250-650	SEG	Aerial
Little Willow Creek	450-1,800	SEG	Aerial
Montana Creek	1,100-3,100	SEG	Aerial
Prairie Creek	3,100-9,200	SEG	Aerial
Sheep Creek	600-1,200	SEG	Aerial
Willow Creek	1,600-2,800	SEG	Aerial
Deception Creek	350-700	SEG	Aerial
<u>Westside Susitna River Management Unit</u>			
Alexander Creek	2,100-6,000	SEG	Aerial
Deshka River	13,000-28,000	BEG	Weir
Lake Creek	2,500-7,100	SEG	Aerial
Peters Creek	1,000-2,600	SEG	Aerial
Talachulitna River	2,200-5,000	SEG	Aerial
<u>West Cook Inlet Management Unit</u>			
Chuitna River	1,200-2,900	SEG	Aerial
Lewis River	250-800	SEG	Aerial
Theodore River	500-1,700	SEG	Aerial

^a SEG-sustainable escapement goal, BEG-biological escapement goal, defined in Appendix O1.- Salmon escapement goal policy.

Table 22.-Tyonek subsistence gillnet and Upper Yentna River subsistence and personal use fish wheel salmon harvests, 1980-2003.

	Number of Permits ^a	King	Sockeye	Coho	Pink	Chum	Other
Tyonek Gillnet							
1980	67	1,757	235	0	0	0	
1981	70	2,002	269	64	15	32	
1982	69	1,590	310	113	14	4	
1983	75	2,665	187	59	0	6	
1984	75	2,200	266	79	3	23	
1985	76	1,472	164	91	0	10	
1986	65	1,676	203	223	50	46	
1987	61/64	1,610	166	149	10	24	
1988	42/47	1,587	91	253	8	12	
1989	47/49	1,250	85	115	0	1	
1990	37/42	781	66	352	20	12	
1991	54/57	902	20	58	0	0	
1992	44/57	907	75	234	7	19	
1993	54/62	1,370	57	77	19	17	
1994	49/58	770	85	101	0	22	
1995	55/70	1,317	45	153	0	15	
1996	49/73	1,039	68	137	21	7	
1997	42/70	639	101	137	0	8	
1998	49/74	1,027	163	64	1	2	
1999	54/77	1,230	144	94	32	11	
2000	59/60	1,157	63	87	6	0	
2001	58/84	976	172	49	4	6	
2002	71/101	1,080	209	115	9	4	1
2003	56/91	973	89	29	5	10	
Mean		1,348	141	122	10	12	1

Upper Yentna River Fish Wheel (In 1996 some permit holders did not identify species.)

	# of Permits	Harv/ Permit	Total	Sockeye	Coho	Pink	Chum
1996-Personal Use	14	33	459	191	36	88	40
1997-Personal Use	21	28	582	492	61	21	8
1998-Subsistence	21/28 ^b	32	673	473	147	33	20
1999-Subsistence	21	25	524	455	43	15	11
2000-Subsistence	20	24	482	379	92	4	7
2001-Subsistence	16	35	564	514	47	9	4
2002-Subsistence	25	23	572	414	116	14	28
2003-Subsistence	15	35	524	433	76	2	13

^a Number of permits returned for early and late season, number returned/number issued.

^b Number pf permits returned/number of permits issued.

Table 23.-Northern Cook Inlet Management Area subsistence and personal use gillnet salmon harvests, 1985-1995.

		Number of Permits ^a	Chinook	Sockeye	Coho	Pink	Chum
Northern and Central District Subsistence Gillnet							
1985							
	North	638	117	2,218	1,427	90	121
	Knik Arm	405	4	1,649	2,055	48	212
	Total	1,043	121	3,867	3,482	138	333
1986-1990		No Fishery					
1991							
Northern District							
	East & West Subdistricts		92	1,383	1,009	90	399
	Knik Arm Subdistrict		21	2,952	1,698	339	1,139
Central			383	16,520	665	88	58
	Total	7,065	550	32,230	3,520	537	1,598
1992							
Northern District							
	East & West Subdistricts		348	3,733	2,511	316	576
	Knik Arm		132	5,203	2,328	354	965
Central			477	20,013	3,982	547	212
	Total	9,200	1,139	46,419	10,320	1,818	1,827
1993		No Fishery					
1994							
Northern District							
	East & West Subdistricts		375	5,830	3,602	365	708
	Knik Arm Subdistrict		236	7,419	2,736	353	680
Central			890	40,084	5,843	2,257	341
	Total	4,900/10,127 ^b	1,501	53,333	12,181	2,975	1,729
Northern and Central District Personal Use gillnet ^c							
1995							
	Northern (E./W.)	545	558	7,200	3,543	272	775
	Knik Arm	816	269	13,440	3,928	431	1,202
	Central	73	110	805	558	32	116
	Total	1,434	937	21,445	8,029	735	2,093

^a Number of permits returned for early/late season.

^b Number of permits returned/number of permits issued.

^c In 1995 the subsistence fishery was replaced with a personal use fishery.

A marine recreational fishery has developed in recent years along the eastside beaches of the Kenai Peninsula (Deep Creek, Ninilchik and Whiskey Gulch area) that targets mixed stocks of early-run chinook salmon. Contribution of specific stocks to these mixed-stock harvests is unknown, but recent tagging studies have shown that a portion of this harvest is made up of fish bound for NCIMA waters. NCI chinook salmon may also be harvested in the Lower Cook Inlet recreational fishery and a multitude of commercial fisheries. Federally managed groundfish commercial fisheries catch chinook salmon as incidental bycatch, but numbers and streams of origin of these fish are largely unknown (Lafferty et al. 1998).

Recent Board of Fisheries Actions

The most recent BOF actions were adopted during the February 2002 meeting. A summary of all BOF actions beginning with the 1993 fishing season is included in Appendix F1.

Management Strategy

The management strategy for NCI chinook salmon has been established through the Board of Fisheries process. Established management plans that address user allocation and specific regulations have been adopted for each fishery. In 1993 escapement goals were adopted based on long-term escapement survey data. These original goals were termed biological escapement goals (BEG). Subsequently new methods have been adopted for determining appropriate escapement goals and the original goals have been replaced, the most recent changes being in 2002. Presently all of the NCIMA chinook salmon escapement goals are stated as sustainable escapement goals (SEG) except the Deshka River which has a BEG. An explanation of the most recent escapement goals is found in Bue and Hasbrouck 2001.

The primary management objective is to achieve established escapement goals. General area restrictions that have been established to reduce harvest potential are reduction of daily and seasonal bag limits, bait prohibition, and reduction in time and area open to fishing. Streams that consistently fall short of escapement goals are closed to chinook salmon fishing. On streams with weirs or programs in place that provide inseason sport harvest information, regulations may be liberalized if harvestable surpluses are projected.

Knik Arm Unit Chinook Salmon Fishery

Background and Historical Perspective

The Little Susitna River (Figure 12) is the only Knik Arm Management Unit stream currently open to the harvest of chinook salmon. It supports a major chinook salmon fishery as well as the largest coho salmon fishery in the NCIMA. Chinook salmon bound for the Little Susitna River are also harvested in the Upper Cook Inlet subsistence and personal use fisheries, the Northern District commercial fishery and possibly saltwater sport fisheries adjacent to the Kenai Peninsula.

Access to the Little Susitna River occurs at three primary locations: (1) intertidal waters of the river are accessed by boats crossing the marine waters of Knik Arm from the Port of Anchorage public boat launch, (2) the road-accessible Little Susitna Public Use Facility which includes a launch and campground, and (3) private and public launches near the Parks Highway which provide access to the upper reaches of the river. The Little Susitna Public Use Facility is by far the most heavily used access to the river. Powerboats can travel from the mouth of the river to the Parks Highway during periods of

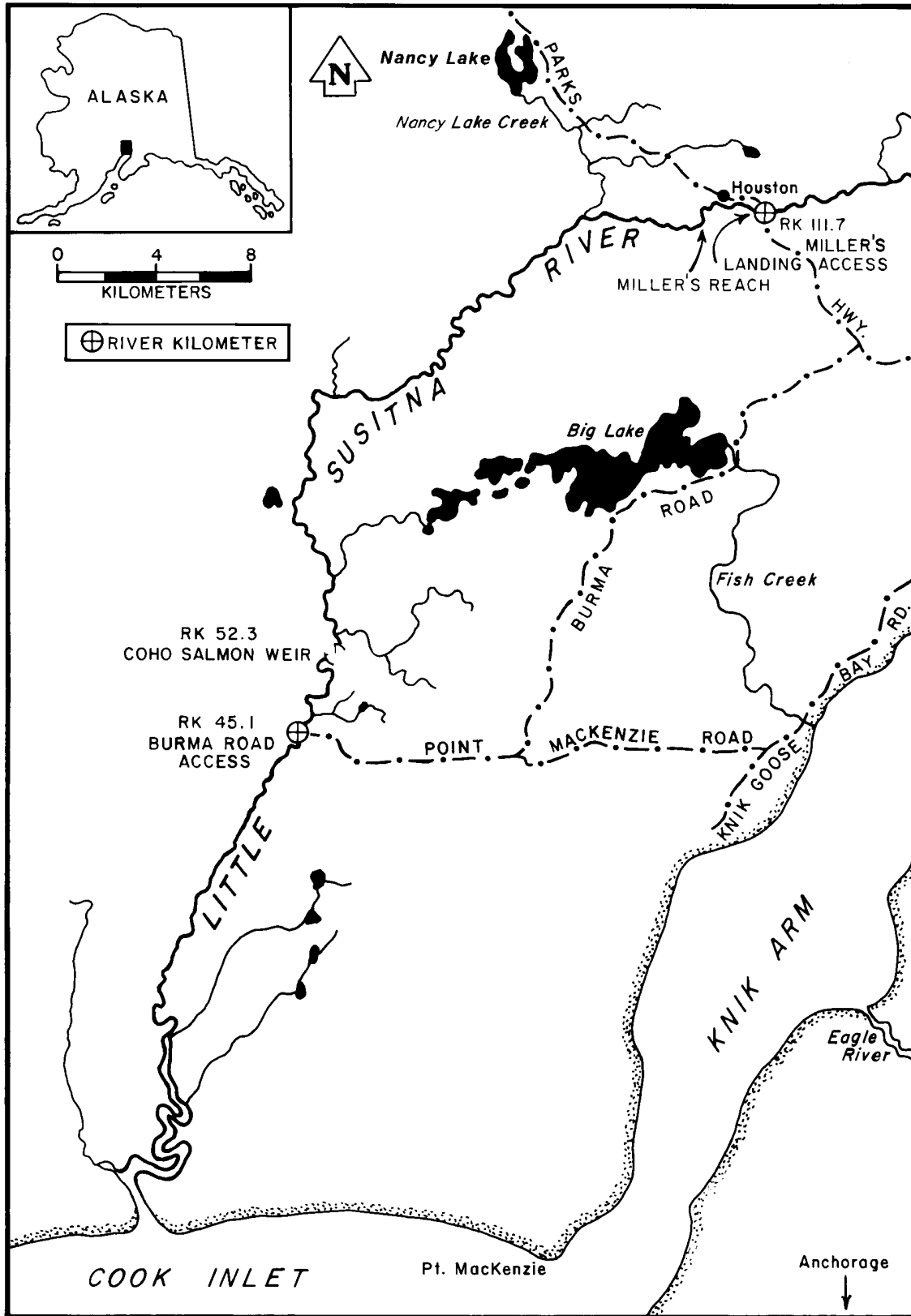


Figure 12.-The Little Susitna River.

moderate to high water levels. However, during low flows travel is restricted to smaller jet boats between River Mile 28 and the Parks Highway at River Mile 70.

Chinook salmon return to the Little Susitna River from late May through early July with the peak immigration approximately mid-June. Spawning occurs from the Burma Road area upstream into Hatcher Pass with the majority of spawning taking place upstream of the Parks Highway Bridge. Few chinook salmon use tributaries for spawning. Peak spawning typically occurs during the last week of July.

Chinook salmon fishing season is from January 1 through July 13 with fishing permitted from the river's mouth upstream to the Parks Highway, a distance of about 70 miles.

Inseason harvest and fishing effort for chinook salmon were estimated by onsite creel surveys from 1979 through 1990. Creel survey and SWHS estimates were found to produce comparable results; therefore, the creel survey program was discontinued in 1991. The average estimated annual harvest of chinook salmon from the Little Susitna River for the period 1979-2001 was approximately 2,545 fish (Figure 13, Appendix A3) (Mills 1981a, b-1994, Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003, and Jennings et al. *In prep a*).

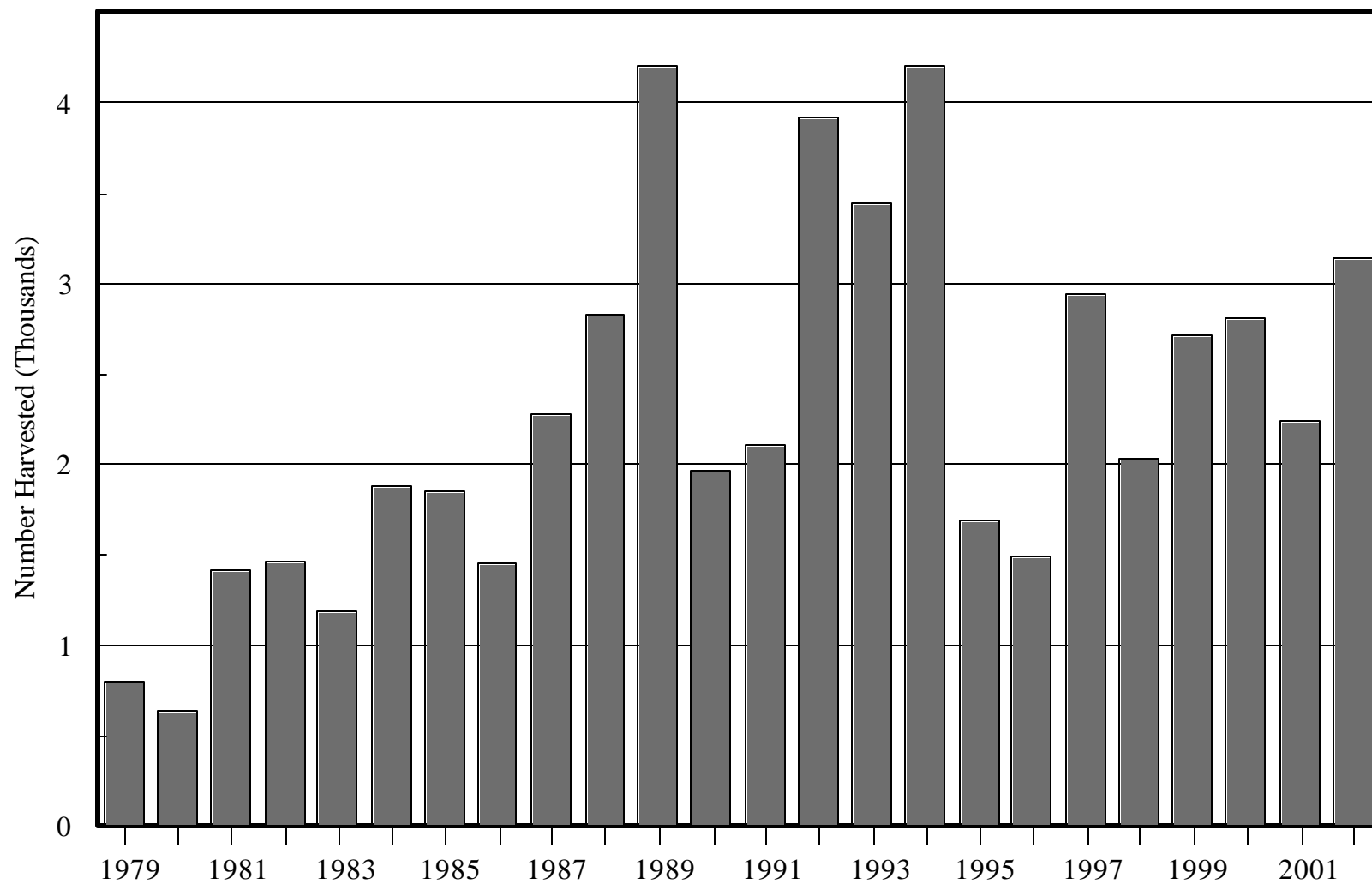
Due to the semiglacial character of the Little Susitna River, successful aerial survey counts of chinook salmon spawning areas cannot be conducted annually. Chinook salmon aerial escapement surveys were completed during 16 of the years from 1983 through 2003. The average chinook salmon escapement index during these years, based on aerial surveys, was 1,284 fish with a peak escapement count of 3,197 fish in 1988 (Table 24). During 1988, 1989, 1994 and 1995 a weir was operated and escapement counts ranging from 2,809 to 7,400 fish were obtained (Table 24).

In order to increase road-accessible harvest opportunities and reduce angler impacts on the area's wild chinook salmon populations, the Eklutna Powerplant Tailrace was chosen as a chinook salmon stocking site in 1999. The annual objective is to release 150,000 chinook smolt resulting in a return of 4,000 adults, generating 10,000 angler-days of effort directed at these fish. Ship Creek chinook salmon will be used as brood stock annually (ADF&G *Unpublished a*). All fishing will take place in the approximately ½ mile powerplant tailrace from the Old Glenn Highway to its confluence with the Knik River.

In May 2002, the first batch of 107,000 hatchery reared chinook smolt were released into the tailrace. Anglers may catch chinook salmon in 2004 after 2 years in the ocean (4 years old); however, a full swing fishery consisting of age 4, 5, and 6-year-old fish is not expected until 2006. There is no wild chinook salmon return to these waters. The Eklutna Hydroelectric Power Plant Tailrace (Figure 14) is a recreational fishery that was originally supported by coho and sockeye salmon returning to the Cook Inlet Aquaculture Association's (CIAA) hatchery located at the head of the tailrace. This nonprofit hatchery operated from 1981 through 1998.

Recent Fishery Performance

The 2002 sport harvest of chinook salmon from the Little Susitna River was 3,144 fish, above the prior 5-year average of 2,545 fish (Appendix A3). The Little Susitna River harvest accounted for approximately 12% of the total chinook salmon harvest from NCIMA waters during 2002 (Table 7 and Appendix A3).



Source: SWHS, Mills 1979-1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. *In prep* a, b.

Figure 13.-Little Susitna River chinook salmon harvest, 1979-2002.

Table 24.-Knik Arm Management Unit chinook salmon escapement index counts, 1979-2003.

Little Susitna River				Matanuska River	
Year	Weir	Aerial	Comments	Moose Creek ^a	Comments
1979			b	253	
1980			b		b
1981			b	238	
1982			b	406	
1983		929		452	
1984		558		541	
1985		1,005		475	
1986			b	419	
1987		1,386		957	
1988	7,400	3,197		1,072	
1989	4,367		b	999	
1990		922		545	
1991		892		704	
1992		1,441		959	
1993			b	175	Late count
1994	2,981	1,221		894	
1995	2,809	1,714		488	
1996		1,079		652	
1997			b	652	
1998		1,091		214	
1999			b	744	
2000		1,094		198	
2001		1,238		275	
2002		1,660		310	
2003		1,114		471	
Mean	4,389	1,284		546	
SEG ^c		900-1,800		No SEG	

^a Foot survey through 1994, helicopter beginning in 1995

^b No count conducted, turbid water.

^c Sustainable escapement goal.

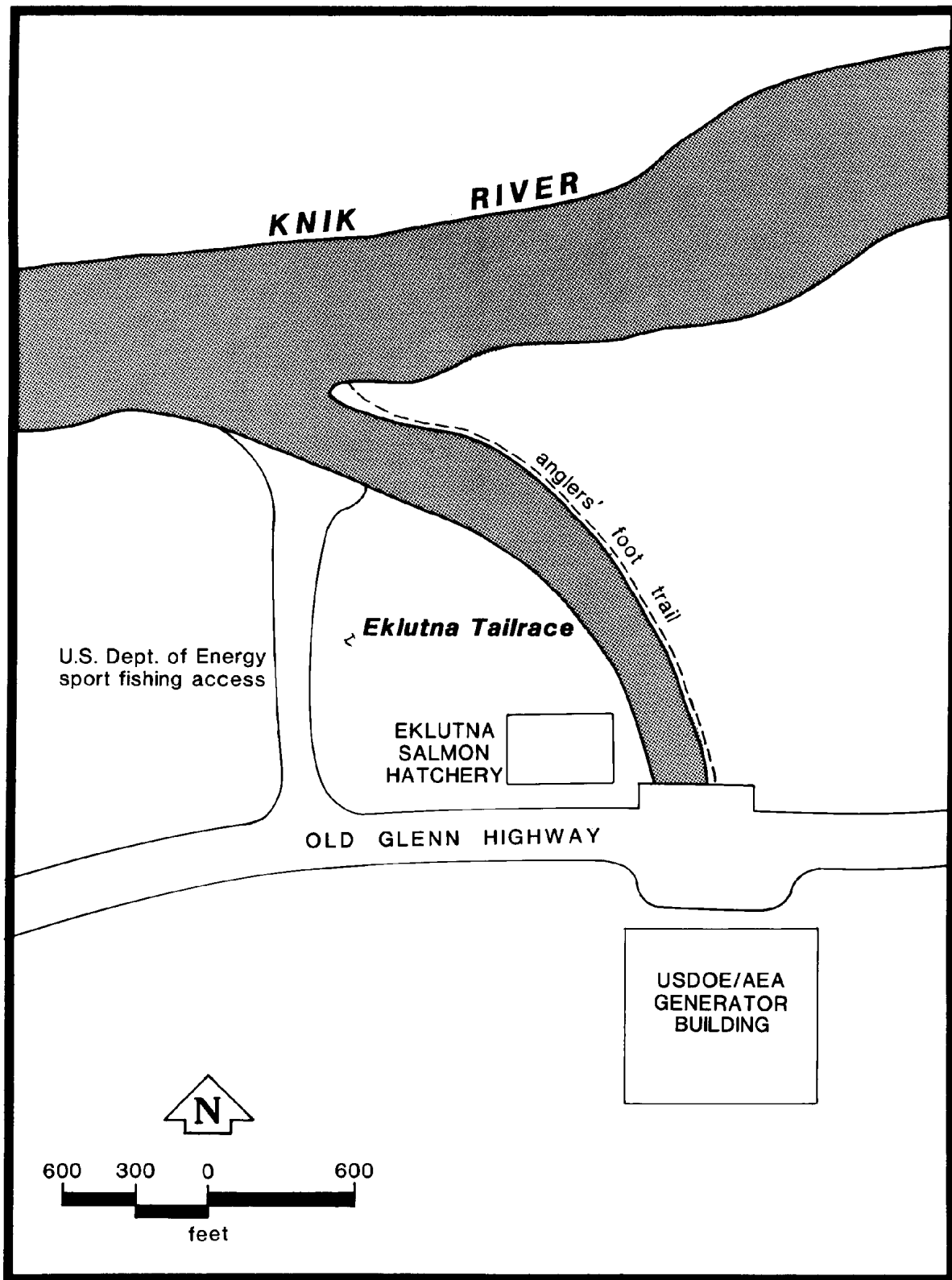


Figure 14.-The Eklutna hatchery and Eklutna powerplant tailrace.

Catch rates as reported by guides and anglers were good throughout the 2003 chinook season.

Water conditions allowed for an escapement survey at the end of July 2003 during which 1,114 chinook were counted, well within the SEG range of 900-1,800 (Table 24).

An aerial survey conducted on Moose Creek, a tributary of the Matanuska River, counted 471 fish; this is below an average return of 546 fish but an improvement from the previous 3 years (Table 24).

Management Objectives

In 1993 the Little Susitna River biological escapement goal (BEG) was established at 850 fish based on the average of aerial survey index counts of spawning chinook salmon. In 2002 a new method for establishing escapement goals was adopted. Under this new criteria a Sustainable Escapement Goal (SEG) range of 900-1,800 chinook salmon was set (Bue and Hasbrouck 2001). The management objective is to maximize fishing opportunity while insuring the attainment of the SEG. During 1988, 1989, 1994 and 1995, years in which a weir program was conducted and harvest estimates were available, inriver exploitation rates were estimated at approximately 28%, 49%, 59% and 38%, respectively. This indicated an increased rate of exploitation from 1988 to 1994, which, if allowed to continue could lead to stock conservation concerns. Since 1995 the escapement has ranged between 1,000-1,700 fish while the harvest has varied from 1,500 to 3,000 fish indicating that the present regulation scheme seems to be maintaining the necessary escapement.

Recent Board of Fisheries Actions

The following regulations were adopted during the February 2002 meeting:

1. Eliminated the use of bait on Little Susitna River July 14, upstream of the Little Susitna Public Use Facility. Previously, a loophole in the regulations allowed use of bait on July 14.
2. Nancy Lake Creek drainage upstream of a marker ¼ mile upstream from its mouth is closed to all salmon fishing including catch-and-release.

The BOF also established an SEG range of 900-1,800 fish for the Little Susitna River.

The next BOF meeting concerning the Little Susitna River chinook salmon is scheduled for February 2005.

Current Issues

There are several ongoing issues confronting the fishery resources of the Little Susitna River and the users of these resources. These issues include: (1) proposed extension of the South Big Lake Road to the Little Susitna River at River Mile 39.5, (2) use restrictions associated with habitat issues such as streambank erosion within the State Game Refuge, (3) safety issues associated with shore anglers and boat traffic, (4) horsepower restrictions, and (5) concerns including user fee rates and overnight boat mooring facilities for guide boats and the lack of Park Ranger presence at Little Susitna River Public Use Facility.

Issues 1 through 4 have been discussed in previous Area Management Reports for NCIMA (Whitmore et al. 1993 and 1996).

In an effort to make the Little Susitna River Public Use Facility (LSPUF) self-supporting the following fees were put into effect beginning in 2000. The daily boat launch and parking fee is \$10 per day, the

seasonal boat launch and parking fee is \$150 per year for private users and \$300 per year for commercial users. In response to numerous complaints concerning the lack of Park Ranger presence, \$25,000 of boating access money is now allotted to fund a position. The ranger is equipped with a jet boat and makes daily patrols on the river.

To address stream bank erosion concerns, access personnel, with the aid of the Division of Parks and Outdoor recreation, carried out bank restoration and trail extension plans during the summers of 2000 and 2001 along the foot trail downstream of LSPUF. Campsite improvements during 2000 and 2001 included construction of 7 camps upstream of the landing. Each camp included a tent platform, stairs to the water's edge, picnic table, bear-proof food box, and fire ring. Four fishing platforms were constructed downstream of the landing. Bank stabilization was also addressed around campsite areas. In May 2002, a new fish cleaning platform was built and installed (Appendix I).

Ongoing Research and Management Activities

An aerial index survey is conducted annually to determine chinook salmon spawning escapement. Harvest and catch are estimated with the SWHS.

The Little Susitna River Public Use Facility lies within the Susitna Flats State Game Refuge and is owned by ADF&G. The Department of Natural Resources, Division of Parks and Outdoor Recreation (DPOR), operates the LSPUF under a cooperative agreement with the ADF&G. This cooperative agreement is included in Appendix J.

In order to increase road-accessible harvest opportunities and reduce angler impacts on the area's wild chinook salmon populations, the Eklutna Tailrace was chosen as a chinook salmon stocking site. The annual objective is to release 150,000 smolt resulting in a return of 4,000 adult chinook salmon, generating 10,000 angler-days of effort directed at these fish. Ship Creek wild chinook salmon are used as brood stock annually. The first smolt release was in May 2002 (ADF&G *Unpublished* b). A portion of these returned in 2003 as jacks under 20 inches attracting some anglers to the area. In 2004 chinook fishing will be allowed by emergency order. Improved access in the form of vault toilet construction, expanded parking, and upgraded road is slated to be in place by 2006 when the fishery is expected to be in full swing (Table 17).

Recommended Research and Management Activities

Aerial surveys should be conducted annually in the Little Susitna River and Moose Creek to index numbers of spawning chinook salmon. Increased regulation enforcement is recommended to address complaints received from anglers concerning the observed use of bait during the Little Susitna River king salmon fishery.

Continued access maintenance and development is necessary for the Little Susitna River chinook salmon fishery. Operation of the Little Susitna Public Use Facility by Division of Parks and Outdoor Recreation is an important boating access project.

Continued development of the Eklutna Tailrace chinook salmon stocking program is recommended.

Eastside Susitna Management Unit Chinook Salmon Fisheries

Background and Historical Perspective

The Eastside Susitna Management Unit includes all drainages of the Susitna River downstream of the Oshetna River to the confluence of the Chulitna River and drainages that flow into the Chulitna River

from the east, and those drainages that flow into the Susitna River from the east between the Talkeetna and Deshka rivers (Figure 1). The Eastside Susitna Management Unit is composed of three distinct geographical areas with different regulations. These areas include: (1) the eastside Susitna River tributaries between the Deshka and Talkeetna rivers, (2) the Talkeetna River, and (3) the upper Susitna area which includes the Susitna River and all tributaries upstream of the confluence with the Chulitna River (including the East Fork drainage of the Chulitna River) to the Oshetna River, including the Oshetna River drainage. Regulations governing eastside Susitna River fisheries since chinook salmon fishing reopened in 1979 are summarized in Appendix E.

Many clearwater tributaries enter the Susitna River from the east between its junction with the Deshka River upstream to the Talkeetna River. The majority of the fisheries in this portion of the management unit are accessible by paved road. There are, however, exceptions, including Little Willow and Greys creeks and various Susitna River side sloughs that require use of a boat to access their most productive portions. The George Parks Highway (Alaska Route 1), which connects Anchorage and Fairbanks, parallels the Susitna River on the east. The Alaska Railroad also parallels the east side of the Susitna River to a large extent. Both transportation systems provide angler access to numerous tributaries. Waters of this area within one-quarter mile of the Susitna River are open to chinook salmon fishing from January 1 through the third Monday in June and on Saturday, Sunday and Monday for two consecutive weeks beginning the fourth Saturday in June. Major fisheries occur in Willow, Little Willow, Caswell, Sheep, Goose and Montana creeks (Figure 15). Each of these fisheries extends from the Susitna River upstream to the Parks Highway, except Montana Creek, which extends one-half mile upstream of the Parks Highway Bridge.

The Talkeetna River joins the Susitna River about 98 miles upstream from Cook Inlet. This glacial system contains two major and numerous minor clearwater tributaries that support chinook salmon (Figure 16). Clear Creek is the most prominent chinook fishery within the Talkeetna River drainage. The Talkeetna Spur Road provides access to the Talkeetna River; however, a boat is required to reach virtually all chinook salmon fisheries within the drainage. This area is primarily accessed from the Talkeetna boat launch.

The Talkeetna River and upper Susitna River drainages are open to chinook salmon fishing from January 1 through July 13. The upper Susitna River area (Talkeetna to Devils Canyon) is accessible only by boat or railroad. A public boat launch adjacent to the community of Talkeetna provides access to the area. Boat travel is relatively safe from the Talkeetna River upstream to the entrance of Devils Canyon, a distance of about 55 miles. Boat travel beyond the entrance to Devils Canyon is extremely hazardous and few boat operators venture past this location. Indian River and Portage Creek are the most prominent chinook salmon fisheries within the Upper Susitna River Area. The entrance to Devils Canyon, beyond which salmon cannot migrate, is about 150 miles upstream from Cook Inlet. The portion of the Susitna River above the Talkeetna River is designated as a trophy fishery for rainbow trout; therefore, only unbaited, single-hook artificial lures are permitted as terminal gear.

Through 1994 the bag and possession limit for chinook salmon in all Eastside Susitna Management Unit fisheries was one chinook salmon per day and two in possession, 16 inches or more in length. In 1995 the possession limit was reduced to one fish.

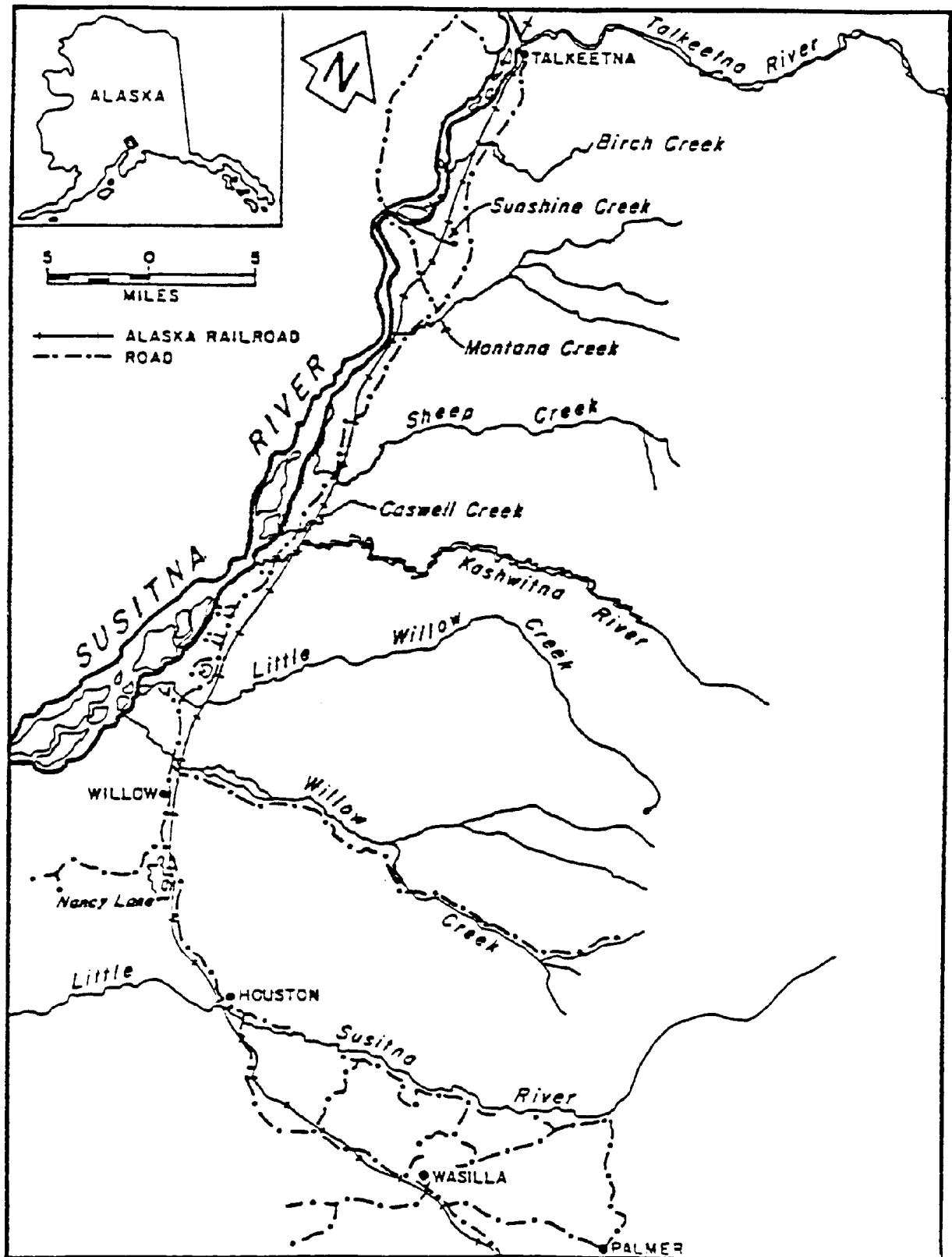


Figure 15.-Eastside tributaries of the Susitna River.

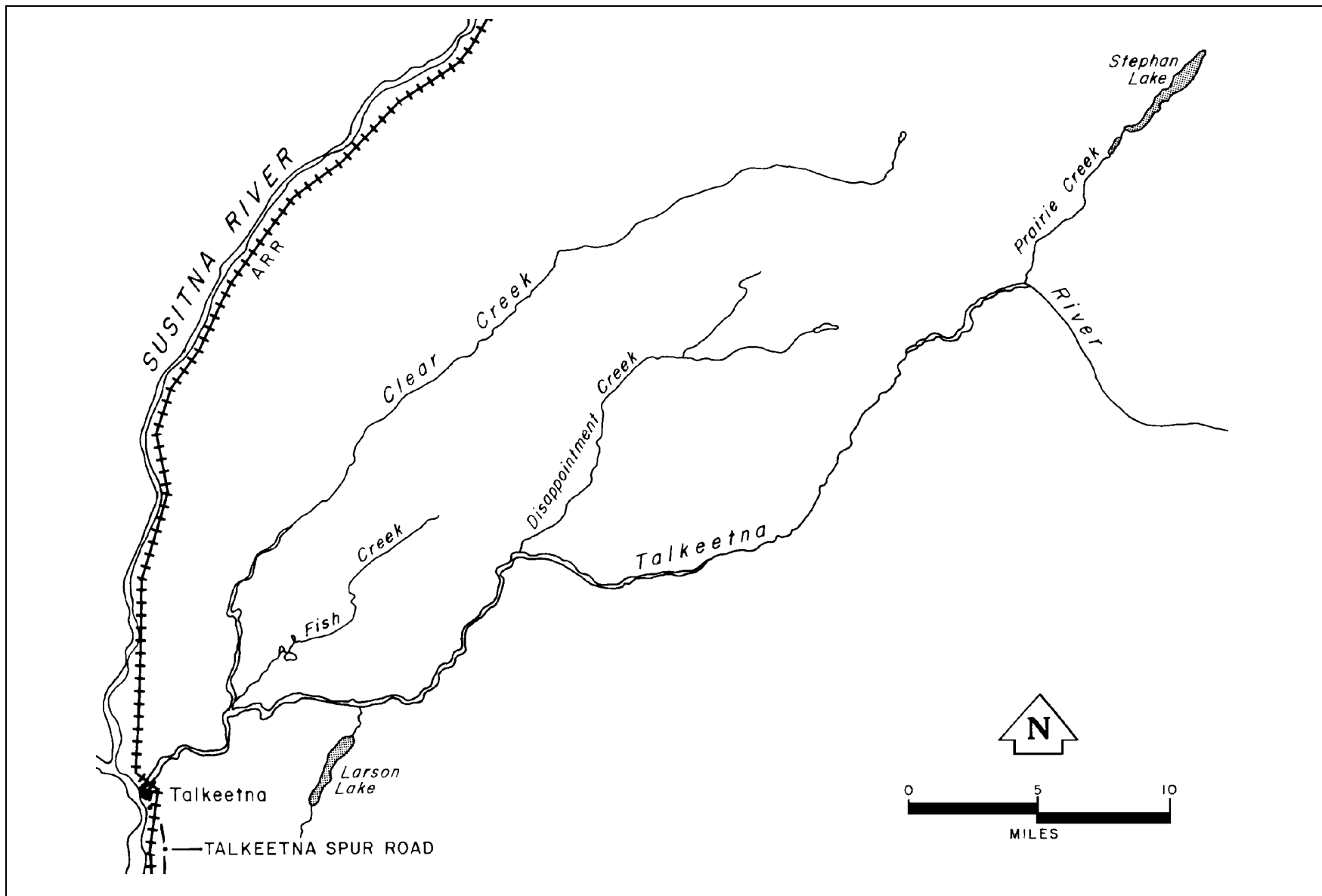


Figure 16.-The Talkeetna River area.

During 1997 through 2001, the Eastside Susitna Management Unit fisheries have collectively provided approximately 50% of the chinook salmon harvest from the NCIMA (Table 25). The harvest has been consistent with a range of 10,472 to 16,875 during this period. Harvest prior to 1996 ranged from 1,298 in 1979 to a peak of 22,688 in 1993. Included in this harvest are hatchery fish taken in Willow Creek, which equals approximately 1,000 to 4,000 fish, annually.

Aerial survey escapement counts of Eastside Susitna Management Unit chinook salmon stocks suggest that these substocks comprise from 40% to 60% of the Susitna River chinook salmon escapement (Tables 26 and 27). Prairie Creek, a headwater tributary of the Talkeetna River, consistently receives the largest escapement with an average escapement of 5,842 from 1981 through 2003 (Table 26).

Table 25.-Harvest of chinook salmon from Eastside Susitna River, Westside Susitna River, West Cook Inlet and Knik Arm drainages as estimated by SWHS, 1979-2002.

Year	Eastside Susitna River			Westside Susitna River	West Cook Inlet	Knik Arm	Total
	Hatchery	Non- hatchery	Total				
1979			1,298	5,768	98	800	7,964
1980			1,370	6,148	34	646	8,198
1981			2,202	4,742	192	1,466	8,602
1982			2,063	8,573	147	1,666	12,449
1983			2,852	9,568	1,185	1,255	14,860
1984			4,428	12,106	1,833	2,057	20,424
1985			4,342	13,644	2,029	1,889	21,904
1986			8,569	13,402	2,378	1,524	25,873
1987			8,603	13,350	1,477	2,476	25,906
1988	355	8,784	9,139	15,970	1,695	2,916	29,720
1989	1,079	8,704	9,783	19,343	2,325	4,341	35,792
1990	1,194	8,229	9,423	17,425	2,097	2,022	30,967
1991	844	8,239	9,083	21,836	762	2,277	33,958
1992	4,566	16,741	21,307	18,737	1,213	3,969	45,226
1993	3,977	18,711	22,688	21,142	1,955	3,602	49,387
1994	2,703	12,267	14,970	10,248	1,583	4,303	31,104
1995	1,111	6,761	7,872	6,265	693	1,707	16,537
1996	1,205	9,818	11,023	5,879	1,358	1,579	19,839
1997	1,091	9,898	10,989	7,799	894	2,938	22,620
1998	902	9,570	10,472	9,716	693	2,031	22,912
1999	2,464	14,411	16,875	12,131	1,073	2,724	32,803
2000	1,776	9,998	11,774	17,341	1,163	2,824	33,102
2001	2,057	11,447	13,504	13,914	722	2,255	30,395
1997-2001 Mean	1,658	11,065	12,723	12,180	909	2,554	28,366
2002	1,720	8,975	10,695	11,357	1,227	3,195	26,474

Table 26.-Eastside Susitna River Management Unit chinook salmon escapement index counts (aerial), 1979-2003.

Year	Willow Creek	Deception Creek ^f	Little Willow Creek	Sheep Creek	Goose Creek	Montana Creek	Clear Ck	Prairie Creek	Chulitna River	Portage Creek	Indian River	Kashwitna River	Other ^b	Total
		Total	Nonhatch											
1979	848	239		327	778	^a	1,094	864	^a	^a	190	285	457	^a
1980														0
1981	991	366		459	1,013	262	814	^a	1,875	^a	659	422	558	^a
1982	592	229		316	527	140	887	982	3,844	863	1,111	1,053	156	268
1983	777	121		1,042	975	477	1,641	938	3,200	4,058	3,140	1,193	297	^a
1984	2,789	675			1,028	258	2,309	1,520	9,000	4,191	2,341	1,456	111	^a
1985	1,856	1,044		1,305	1,634	401	1,767	2,430	6,500	783	^c	^c	457	4,066
1986	2,059	521	364	2,133	1,285	^a	^a	^a	8,500	^a	^a	^a	700	^a
1987	2,768	692	518	1,320	895	416	1,320	^a	9,138	5,252	2,616	1,246	872	^a
1988	2,496	790	537	1,515	1,215	1,076	2,016	4,850	9,280	^a	1,402	456	1,159	^a
1989	5,060	800	623	1,325	610	835	2,701	^a	9,463	^a	1,309	659	355	^a
1990	2,365	700	420	1,115	634	552	1,576	2,380	9,113	2,681	1,886	1,473	872	^a
1991	2,006	747	515	498	154 ^d	968	1,605	1,974	6,770	4,410	1,223	1,468	340	^a
1992	1,660	983	423	673	^a	369	1,560	1,530	4,453	2,527	1,078	479	470	^a
1993	2,227	1,221	502	705	^a	347	1,218	886	3,023	2,070	629	362	525	^a
1994	1,479	766	388	712	542	375	1,143	1,204	2,254	1,806	857	336	430	^a
1995	3,792	834	445	1,210	1,049	374	2,110	1,928	3,884	3,460	1,505	796	836	^a
1996	1,776	1,211	654	1,077	1,028	305	1,841	2,091	5,037	4,172	2,185	579	782	^a
1997	4,841	1,340	^a	2,390	^a	308	3,073	5,100	7,710	5,618	3,086	1,700	761	^a
1998	3,500	1,273	699	1,782	1,160	415	2,936	3,894	4,465	2,586	1,261	502	619	^a
1999	2,081	1,000	801	1,837	^a	268	2,088	2,216	5,871	5,455	1,797	1,049	644	^a
2000	2,601	1,563	828	1,121	1,162	348	1,271	2,142	3,790	4,218	1,015	601	329	^a
2001	3,188	1,975	943	2,084	^a	^a	1,930	2,096	5,191	2,353 ^d	2,334	1,292	604	^a
2002	2,758	1,000	123	1,680	854	565	2,357	3,496	7,914	9,002	3,336	1,126	1,049	^a
2003	3,964	914	288	879	^a	175	2,576	^a	4,095	^a	827 ^d	1,365	546	^a
Mean	2,436	875	534	1,196	919	440	1,819	2,238	5,842	3,639	1,627	904	580	2,167
SEG ^e	1,600-2,800		350-700	450-1,800	600-1,200	250-650	1,100-3,100	950-3,400	3,100-9,200	1,800-5,100				

^a No counts conducted.^b May include Honolulu, Byers, Troublesome, Bunco, Birch, Sunshine, Larson creeks.^c Included with other streams.^d Poor count due to timing, poor visibility or weather conditions.^e Sustainable escapement goal.^f Prior to 1994 counts are a combination of foot surveys and weir counts.

Table 27.-Westside Susitna River Management Unit chinook salmon escapement index counts, 1979-2003.

Year	Alexander Creek	Deshka River		Peters Creek	Lake Creek	Talachulitna River	Cache Creek	Other Streams ^b	Aerial Total
		Aerial	Weir ^g						
1979	6,215	27,385		108	4,196	1,648	^a	^a	39,552
1980 ^a									
1981	^a	^a		^a	^a	2,025	^a	^a	2,025
1982	2,546	16,000		^a	3,577	3,101	^a	^a	25,224
1983	3,755	19,237		2,272	7,075	10,014	497	^a	42,850
1984	4,620	16,892		324	^a	6,138	^a	^a	27,974
1985	6,241	18,151		2,901	5,803	5,145	206	485	38,932
1986	5,225	21,080		1,915	^a	3,686	424	^a	32,330
1987	2,152	15,028		1,302	4,898	^a	556	^a	23,936
1988	6,273	19,200		3,927	6,633	4,112	818	^a	40,963
1989	3,497	^a		959	^a	^a	362	^a	4,818
1990	2,596	18,166		2,027	2,075	2,694	484	^a	28,042
1991	2,727	8,112 ^c		2,458	3,011	2,457	499	161	19,425
1992	3,710	7,736		996	2,322	3,648	487	^a	18,899
1993	2,763	5,769		1,668	2,869	3,269	1,690	^a	18,028
1994	1,514	2,665		573	1,898	1,575	628	570	9,423
1995	2,090	5,150	10,048	1,041	3,017	2,521	1,601	408	15,828
1996	2,319	6,343	14,349	749	3,514	2,748	581	548	16,802
1997	5,598	19,047	35,587	2,637	3,841	4,494	1,774	1,046	38,437
1998	2,807	15,556	15,409 ^f	4,367	5,056	2,759	1,771	642	32,958
1999	3,974	12,904	29,649	3,298	2,877	4,890	1,720	597	30,260
2000	2,331 ^c	^a	35,242	1,648	4,035	2,414	709	^a	11,137
2001	2,282	^a	29,004	4,226	4,661	3,309	624	^a	15,102
2002	1,936	8,749	29,428	2,959	4,852	7,824	671	1,075	28,066
2003	2,012	^a	39,496	3,998	8,153	9,573	558	^a	24,294
Mean	3,443	13,851	26,468	2,107	4,218	4,093	833	615	24,388
SEG ^d	2,100-6,000	^e	13,000- 28,000	1,000- 2,600	2,500- 7,100	2,200-5,000			

^a No count conducted.

^b May include Donkey Creek, Red Creek and other miscellaneous creeks.

^c Low count due to timing, poor visibility or weather conditions.

^d Sustainable escapement goal.

^e Aerial escapement goal 1994-1998 was 11,200; revised for 1999 to 8,750; in 2002 aerial escapement goal was abolished.

^f During 1998 weir count represents only half the return. High water delayed construction until June 16.

^g Weir count, not an actual escapement count.

Willow Creek, Talkeetna River, Sheep Creek and Montana Creek traditionally produce the largest harvest of chinook salmon in the Eastside Susitna Management Unit. The 1997-2001 average annual harvest for these fisheries ranged from 1,216 fish in Sheep Creek to 3,854 fish in Willow Creek (Appendix A5). Tagging studies have shown that these chinook salmon substocks are subject to harvest at stream mouths other than their natal stream (Peltz and Sweet 1992). For example, stocks from the upper portions of the drainage such as Prairie Creek are harvested at stream mouths along their migration corridor. The magnitude of nonnatal stream harvest has not been defined.

Few chinook salmon arrive at the mouths of Eastside Susitna Management Unit tributaries between the Deshka and Talkeetna rivers prior to mid-June. The third and fourth weekends in June generally provide the majority of the harvest. Very few chinook salmon arrive at the Talkeetna River prior to June 20, with the fishery peak occurring the first week in July. The Upper Susitna River fishery has run timing similar to the Talkeetna River.

Creel surveys were employed from 1979-1989 to monitor the effort for and harvest of chinook salmon and to collect biological samples at Willow Creek, Montana Creek, and the Talkeetna River. Creel surveys were continued on Willow Creek through 1993 and again in 1995. Additionally, in 1991, 1992 and 1995 creel surveys were conducted for the Talkeetna River. Biological samples were collected from the Talkeetna River during the 1993, 1994 and 1996 seasons and are annually collected at Willow Creek. No harvest estimates were collected during this time. Creel surveys were intermittently conducted at Sheep, Goose, Caswell, Little Willow, Sunshine, and Birch creeks and within the upper Susitna River area. Findings from these surveys have been documented in Department of Fish and Game annual reports (Watsjold 1980, 1981; Bentz 1982, 1983; Hepler and Bentz 1984-1987, Hepler et al. 1988 and 1989, Sweet and Webster 1990, Sweet et al. 1991, Peltz and Sweet 1992 and 1993, Sweet and Peltz 1994, Whitmore et al. 1995, 1996, Whitmore and Sweet 1997-1999, Rutz and Sweet 2000, Sweet and Rutz 2001).

Willow Creek was identified in 1981 as a candidate for chinook salmon stocking in the Cook Inlet Regional Salmon Enhancement Plan (CIRPT 1981). A chinook salmon smolt stocking program was initiated in 1985, and with the exception of 1987, the program has continued annually (Table 28). The goals of this program are to: (1) maintain the present quality and quantity of natural chinook salmon production, (2) produce through supplemental hatchery production an additional 6,000 returning chinook salmon of which 4,000 would be available for harvest at Willow Creek on an annual basis, and (3) provide 10,000-15,000 angler-days of chinook salmon fishing opportunity during king salmon season (Sweet 1999).

Recent Fishery Performance

The 2002 chinook salmon harvest from the Eastside Susitna Management Unit was 10,695 fish (Table 9 and Appendix A5), approximately 85% of the 1997-2001 mean harvest of 12,723. This harvest represented about 40% of the entire chinook salmon harvest from the NCIMA (Table 25). In total, 35,594 chinook salmon were caught in the Eastside Susitna Management Unit during 2002, of which 70% were released (Table 13). The harvest estimate for 2002 includes approximately 1,700 hatchery fish taken in the Willow Creek fishery (Table 25).

During 2002 the harvest of chinook salmon from Willow Creek, Talkeetna River, and Montana Creek was 3,591 (approximately 1,700 hatchery produced), 2,616 and 2,026 fish, respectively,

Table 28.-Number of chinook salmon smolt stocked into the Willow Creek drainage from 1985-2003.

Brood Year	Release Location ^a	Total Smolt Release	Number Coded wire Tagged	Mean Size	Release Date
1983	Deception	101,256	8,152	18	6/13/1985
1984	Deception	214,384	11,038	13.8	6/11-12/85
	Deception	218,743	10,708	14	6/20/1985
1985	Deception	49,668	9,933	16.7	5/1/1986
	Deception	127,904	18,400	12.2	5/10/1986
	Deception	147,877		11.4	5/10/1986
		<u>275,781</u>	18,400		
1987	Deception	201,091	20,936	10.9	7/12/1988
1988	Deception	240,885	19,851	13	5/31/1989
1989	Deception	219,362	41,570	14.4	5/24/1990
	Deception	219,432	40,575	13.4	5/24/1990
	Deception	216,697	40,438	13.9	5/24/1990
		<u>655,491</u>	122,583		
1990	Deception	168,777		11.2	5/21/1991
	Deception	70,258	31,167	12.3	5/31/1991
	Willow	73,756		12.3	5/28/1991
	Willow	78,878	31,167	12.3	5/30/1991
		<u>391,669</u>	62,334		
1991	Deception	179,724	33,464	13.5	5/29/1992
	Deception	35,752		14.5	6/9/1992
		<u>215,476</u>	33,464		
1992	Deception	160,194	39,420	14.9	6/1/1993
1993	Deception	177,913	45,921	13.3	5/24-25/94
1994	Deception	184,740	46,256	13.5	5/25/1995
1995	Deception	186,918	47,145	14.4	6/12-17/96
1996	Deception	209,944	207,973	12.2	6/11-20/97
1997	Deception	197,392	197,392	11.5	6/17-26/98
1998	Deception	201,586	199,772	11.5	6/14,16,17/99
1999 ^b	Deception	7,500			
	Deception	198,996			
		<u>206,946</u>	205,051	12.6	6/2,13,14/00
2000	Deception	207,465	204,560	14.2	6/18,19/01
2001	Deception	197,277	196,608	12.1	6/21,24/02
2002	Deception	100,635	101,407	14.5	6/19/2003

^a Prior to 1996 the Deception Creek release site was at the mouth of Deception Creek. Beginning in 1996 the release site was at the Four Mile Road crossing.

^b In 2000 the stocking truck got stuck on Four Mile Road. Approximately 7,500 smolt were bucketed to Deception Creek at Four Mile Road, the remaining smolt were released at Hatcher Pass Road bridge near the mouth of Deception Creek.

accounting for the majority of the total harvest from the Eastside Susitna Management Unit (Appendix A5).

A catch-sampling program to estimate the relative contribution of hatchery-produced chinook salmon to the sport harvest is conducted at the mouth of Willow Creek annually. A carcass survey of the escapement to estimate hatchery contribution is conducted at Deception Creek. A carcass survey of the Willow Creek spawning area is also conducted to monitor hatchery straying into the spawning grounds of mainstem Willow Creek. During 2003 hatchery fish accounted for 40.83% of the harvest, 68.45% of the Deception Creek escapement, and 2.73% of the escapement in the mainstem of Willow Creek above the confluence of Deception Creek (Table 29). During 1989-2002 the hatchery contribution to the sport harvest averaged 41%. The annual chinook salmon egg take at Deception Creek resulted in 850,810 eggs collected in 2003 (Table 30).

In association with this project the age, sex and size composition of the harvest was determined (Table 31). In 2003 males accounted for about 60% of the Willow Creek sport harvest with approximately 12% of the harvest composed of age-1.2 fish, 34% age-1.3 and 52% age-1.4 fish. This includes hatchery fish with corresponding ages of 0.2, 0.3 and 0.4.

Escapement index counts in 2003 indicated a minimum of 3,964 spawners for Willow Creek and 914 for Deception Creek (Table 26).

Information provided to the department from recreational anglers and guides combined with information obtained from the Willow Creek chinook salmon catch sampling program in 2003 indicated that we were experiencing an above average return to eastside Susitna systems. In response, the department, by emergency order authority, extended the fishing season in Willow, Sheep, and Montana creeks for an additional 3 days, July 4–6, allowing fishing between the hours of 6:00 a.m. and 11:00 p.m. (Appendix D1).

The 2003 escapement surveys for Eastside Susitna Management Unit chinook salmon resulted in all streams except Goose Creek meeting their SEGs (Table 26). All 2002 surveys were not completed in Sheep and Clear creeks and the Chulitna River due to high water causing poor visibility.

Management Objectives

During the February 2002 BOF meeting escapement goals were reviewed based on the Policy for the Management of Sustainable Salmon Fisheries and the Policy for Statewide Salmon Escapement Goals, both adopted by the BOF during winter 2000-2001. Sustainable escapement goal (SEG) ranges for nine Eastside Susitna Management Unit streams were established (Table 21). These escapement goals were based on historic escapement index counts (Bue and Hasbrouck 2001). The management objective for these nine streams is to achieve the escapement goal within each system. In the streams that cross the George Parks Highway, management strategies provide maximum levels of sustained chinook salmon fishing opportunity while attaining escapement objectives. Objectives specific to Willow Creek relative to the chinook salmon enhancement program are to provide 10,000-15,000 angler-days of participation, and opportunity to harvest an additional 4,000 hatchery-produced chinook salmon.

In the upper Susitna River area, management strategies are in place to allow for sustained yield of trophy-size rainbow trout. Full utilization of chinook salmon within this area is not a primary objective.

Table 29.-Contribution of hatchery-reared chinook salmon to the sport harvest and escapement at Willow Creek, 2003.

Recovery Site Tag Code	Willow Creek				Deception Creek		Brood Yr- Age (0.N)
	Harvest		Escapement sampling	Carcass	Escapement Sampling	Carcass	
	# Recov	% Contrib					
312532	1	0.06					97-6
310131	9	0.54			1	0.73	98-5
312617	18	1.08			2	1.46	98-5
312618	22	1.32					98-5
312619	20	1.20			2	1.46	98-5
312620	18	1.08			4	2.91	98-5
310144	64	3.84	2	0.78	6	4.36	99-4
310233	78	4.67	2	0.78	14	10.17	99-4
310234	97	5.80	2	0.78	15	10.89	99-4
310235	46	2.75			5	3.63	99-4
312621	65	3.90	1	0.39	13	9.46	99-4
310241	62	3.75			8	5.87	00-3
310242	48	2.90			7	5.14	00-3
310243	43	2.60			2	1.47	00-3
310244	54	3.24			4	2.92	00-3
310245	29	1.74			5	3.64	00-3
310252	2	0.12			2	1.45	01-2
310253	2	0.12					01-2
310254	2	0.12			4	2.89	01-2
Total	680	40.83	7	2.73	94	68.45	
							Total
Total Tags Decoded	688 ^a		9 ^b		94		94
No Tag Found	50		3		2		55
Head Lost	50		2		46		98
Total Clips Observed	788		14		142		944
Total Fish Inspected	1,795		300		205		2,300

^a 8 tags are of wild stock

^b 2 tags are of wild stock

Table 30.-Number of eggs collected during NCIMA salmon egg takes, 1989-2003.

Stock	Chinook	Coho			Chum		Sockeye	
	Deception Ck	Jim Ck	Nancy Lk	Eklutna Tailrace	Eklutna (Matanuska)	Eklutna Tailrace	Tustemena Meadow Ck	Lake
1989	913,900		530,300	52,000		3,890,000		
1990	495,100		590,000	150,000		3,050,000		
1991	430,000		878,400	149,000	3,970,000			
1992	391,500		833,600	72,630				
1993	391,100		870,900	100,000			9,000,000	
1994	440,300		903,000	105,000			7,700,000	
1995	629,200		992,700	98,000			8,000,000	
1996	353,000	117,500	853,500				8,000,000	4,321,000
1997	591,300	165,600					8,000,000	4,041,000
1998	644,900	154,900					5,132,000	13,382,000
1999	792,214			193,660			1,490,000	14,984,000
2000	708,946			162,044			3,638,000	11,810,000
2001	891,755			196,600			6,286,000	12,037,000
2002	1,173,628			183,037			6,342,000	11,721,000
2003	850,810			237,836				

Recent Board of Fisheries Actions

During the February 2002 meeting the BOF adopted the following regulations:

1. Allow catch-and-release fishing for kings in East Fork of Chulitna River through July 13. Only one single-hook, unbaited artificial lure may be used January 1 through July 13.
2. The Larson Creek drainage upstream of a marker ¼ mile upstream from its mouth is closed to sport fishing for all salmon year-round.

In addition, in 2002 the BOF established SEG ranges for nine Eastside chinook salmon stocks: Chulitna River and Clear, Goose, Little Willow, Montana, Prairie, Sheep, Willow, and Deception creeks.

The next BOF meeting to include Eastside Susitna Management Unit chinook salmon is scheduled for February 2005.

Current Issues

The primary social issues in the Eastside Susitna Management Unit chinook salmon fisheries are associated with crowding and regulation enforcement. Currently these fisheries provide a pleasant experience for most people who participate but as Southcentral Alaska continues to grow, increasingly

crowded conditions may deter many anglers. There is also an issue between boaters who anchor off the mouth of Willow Creek to fish and the shore anglers who are the vast majority. The boat verses shore angler situation has resulted in many arguments and bad feeling between the two groups.

The access maintenance, development and land acquisition program in this area will help keep ahead of the overcrowding problem. The Fisheries Access Improvements section gives a detailed summary of these projects.

Table 31.-Sex and age composition and length-at-age of chinook salmon sampled from the Willow Creek sport harvest, and Deshka River weir escapement , 2003.

Age Class ^a	Deshka River Weir			Willow Creek Harvest ^b		
	1.2	1.3	1.4	1.2	1.3	1.4
Male						
Percent	28.7	18.6	5.7	12.1	28.3	18.8
SE	0.5	2.0	1.8	1.8	2.4	2.1
Mean Length-mm ^c	580	761	929	626	754	983
SE	4.5	7.3	12.3	6.5	7.2	9.3
Sample size	140	91	28	42	98	65
Female						
Percent	7.4	30.1	8.0		6.1	33.5
SE	1.2	2.1	1.2		1.3	0.3
Mean Length-mm ^c	609	780	889		839	966
SE	9.1	4.6	7.8		10.8	4.7
Sample Size	36	147	39			
Combined						
Percent	36.1	48.8	13.7	12.1	34.4	52.3
SE	2.2	2.3	1.6	1.8	2.6	2.7
Mean Length-mm ^c	586	773	906	626	769	972
SE	4.1	4.0	7.2	6.5	6.9	4.5
Sample Size	176	238	67	42	119	181
Total Percent Male (SE)	54.1	(2.3)		60.1	(2.6)	
Total Percent Female (SE)	46	(2.3)		39.9	(2.6)	
Total Sample Size	488			346		

^a Less than 3% of the population consists of age classes other than those listed.

^b It is not possible to distinguish hatchery (freshwater age 0) from non-hatchery (freshwater age 1) fish when reading scales so all are grouped together as freshwater age 1.

^c Mid eye to fork length.

Ongoing Research and Management Activities

Willow Creek has been the site of a chinook salmon stocking program since 1985. Inseason assessment of the biological characteristics of and hatchery contribution to the harvest and escapement are important components in responsible continuation of the Willow Creek stocking program.

Annual assessment of escapement is an ongoing activity associated with the Eastside Susitna Management Unit fisheries. Results from escapement indices, in conjunction with harvest data from the SWHS, are the primary elements used to manage these fisheries.

The department is responsible for the following public access facilities within this management unit:

1. A private concessionaire is contracted to oversee the operation of the Talkeetna River boat launching facility and perform routine maintenance. Fees are charged. In addition, the concessionaire is responsible for maintenance of pit privies installed near the confluence of the Talkeetna River and Clear Creek.
2. Maintenance at Sheep Creek is provided annually through contract with private maintenance companies. No boating access is available from this site. The parking and camping area provides anglers with access to the confluence of Sheep Creek and the Susitna River. This is a no fee area.
3. The Caswell Creek parking and camping area provides anglers with access to the confluence of Caswell Creek and the Susitna River. No boating access is available at this site. The department has been granted management authority over a 30-acre tract, including this site, from Alaska Department of Natural Resources (ADNR). Contracts are established annually with local maintenance companies to maintain toilets, empty dumpsters, and provide general facility cleaning. This is a no fee area.
4. Susitna Landing is located at the confluence of the Kashwitna and Susitna rivers and can be reached by vehicle. Services provided at the site include parking, boat launch and RV camping. Fees are charged. A contracted concessionaire operates the facility and performs routine maintenance with the department providing upgrades as needed.

Recommended Research and Management Activities

We recommend continuation of the assessment of the Willow Creek hatchery enhancement program.

A program should be initiated to assess the age composition of the return to the Susitna River. A database is available for past years and should be continued to increase our understanding of these stocks.

Aerial escapement surveys will be continued, as they are our only indication of run strength in many streams.

Enforcement activities should be continued to maintain contact with anglers and ensure compliance with regulations.

Continuation of the access maintenance, development and land acquisition program is necessary in the Eastside Susitna Management Unit. The Fisheries Access Improvements section gives a detailed summary of these projects.

Westside Susitna Management Unit Chinook Salmon Fisheries

Background and Historical Perspective

Tributaries that drain into the Susitna River from the west (Figure 17) supported the largest chinook salmon fisheries within the NCIMA through 1991. Access to the relatively remote fisheries in this area is primarily by boat or aircraft. Susitna Landing, located at the mouth of the Kashwitna River, and Deshka Landing, located about 4 miles upstream from the Deshka River, are the principal boat access sites on the Susitna River. A few anglers also gain access to Westside Susitna Management Unit fisheries by traversing Cook Inlet by boat from the Port of Anchorage. The Petersville Road provides the only vehicular access to this portion of the Susitna River drainage. This road allows access to the upper reaches of the Deshka River and Peters Creek.

The Yentna River, the largest tributary of the Susitna River, is within this management unit. This glacially turbid river flows into the Susitna River about 30 miles upstream from Cook Inlet.

The westside Susitna River chinook salmon fisheries supported the largest harvest of chinook salmon within the NCIMA from 1979-1992 when the eastside Susitna River harvest surpassed it, then again in 2000-2002 (Table 25). The Deshka River, Alexander Creek and Lake Creek have supported the largest chinook salmon fisheries in this management unit (Appendix A7). The collective harvest from these three fisheries during 1997-2001 represents approximately 80% of the total chinook salmon harvest from the Westside Susitna Management Unit fisheries. The Deshka River consistently provided the largest chinook salmon harvest within the NCIMA until 1993. In 1994 Deshka River harvests declined dramatically, resulting in closure of the Deshka River to chinook salmon fishing from June 17, 1994 through June 21, 1997. Deshka River regained its potential to allow for a large harvest of chinook salmon by 1997. Beginning in 1998 it again produced the largest harvest in the NCIMA.

The peak harvest at the mouth of Alexander Creek (Susitna River Mile 10) normally occurs during the first week in June. The harvest at the mouth of the Deshka River (Susitna River Mile 40) peaks during mid-June, whereas at Lake Creek (64 miles from the mouth of the Susitna River at Yentna River Mile 34) the peak harvest usually takes place during the third week in June.

Harvest levels at major westside Susitna River fisheries increased substantially from 1979-1993. Improved access (as described in Whitmore et al. 1993) and population growth undoubtedly increased both participation and harvest. However, it is important to recognize that liberalized regulations during 1986 through 1992, when the chinook salmon bag limit in this area was increased to two daily over 16 inches in length (only one over 28 inches) and fur in possession (only two over 28 inches), also contributed to an increased harvest. Regulations governing westside Susitna River fisheries since chinook salmon fishing reopened in 1979 are described in Appendix E1.

The chinook salmon fishing season at all westside Susitna River fisheries through 1993 extended from January 1 through July 13. With the exception of the Deshka and Chulitna rivers, all westside Susitna River tributaries were open to chinook salmon fishing in their entirety. The Deshka River drainage was closed to chinook salmon fishing upstream from the Moose/Kroto Creek fork; and the Chulitna River was closed with the exception of the East Fork drainage, which is within the Eastside Susitna Management Unit. Beginning in 1994, additional time and area closures have been implemented to

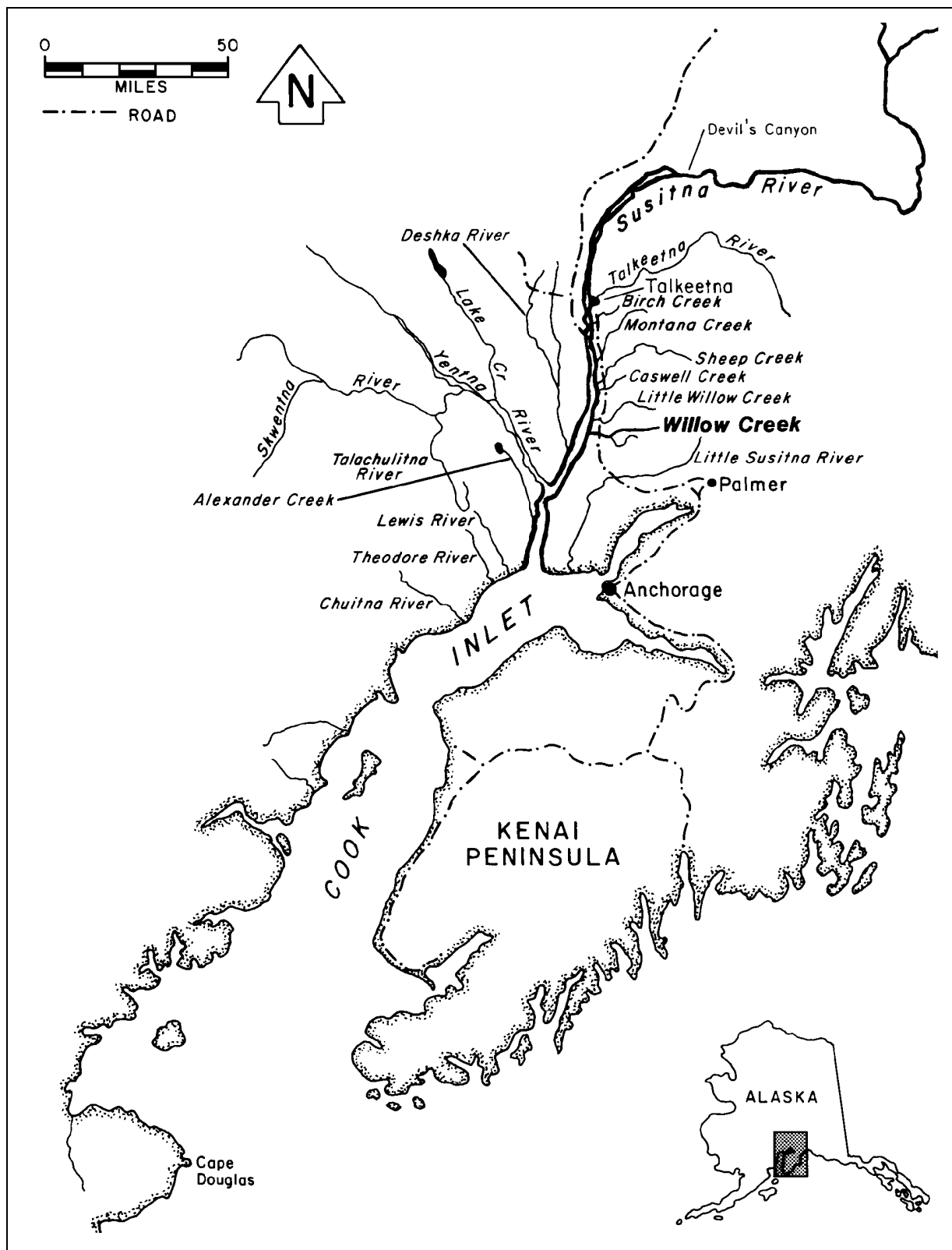


Figure 17.-The Northern Cook Inlet area.

reduce chinook salmon harvest and effort. Unbaited, single-hook artificial lures are mandatory within the Talachulitna River and in large portions of Lake and Alexander creeks and the Deshka River.

Commercial services play an important support role in Westside Susitna Management Unit fisheries. Creel surveys in 1989 revealed that 64% of the chinook salmon fishing effort at Lake Creek was supported by some form of commercial service; e.g. fishing guides, lodges, air charter, etc. (Engel and Vincent-Lang 1992). In contrast, only 14% and 6% of the participants at Alexander Creek and the Deshka River used commercial services, respectively. It is thought that commercial services have increased their role in the Alexander and Deshka river fisheries since the 1989 survey.

Aerial surveys during the 1990 chinook fishery revealed very light fishing pressure scattered throughout the vast reaches of the Yentna River drainage (Sweet et al. 1991). The distribution and magnitude of this effort did not suggest that any surveyed water was in danger of over-harvest because of heavy fishing pressure.

Beginning in 1991 and continuing through 1996, chinook salmon spawning abundance in westside Susitna River tributaries fell below desired levels (Table 27). Chinook salmon escapement counts in the Deshka River indicated an alarming decline during this period, while the average recreational harvest of chinook salmon during 1990 through 1992 was approximately 40% greater than the average harvest during the previous 10 years (Appendix A7). The escapement goal for the Deshka River from 1994 through 1998 was 11,200 chinook salmon, counted by aerial survey. This goal was not achieved from 1991-1996 (Table 27).

Concern for Susitna River chinook salmon grew during 1992 when harvest rates of commercial and sport fisheries that intercept these stocks reflected that fish abundance was less than desired. An emergency order (EO) effective June 22, 1992, reduced the daily bag and possession limit for chinook salmon 16 inches or more in length to one fish in all waters of the Susitna and Little Susitna River drainages. It also required the release of all chinook salmon 16 inches or more in length, and the use of unbaited, artificial lures in all waters of the Deshka River drainage between the Deshka River's confluence with Trapper Creek and the confluence of Moose and Kroto creeks (the Forks); and in all waters of the Alexander Creek drainage upstream from Alexander Creek's confluence with Trail Creek (Appendix D). Growing concern caused the BOF during its 1992 meeting to adopt new regulations for the 1993 chinook salmon season. These regulations included a bag limit of one daily and two in possession, a seasonal five Cook Inlet chinook salmon limit and a requirement that sport fishing guides cannot participate or engage in fishing during the chinook salmon season while clients are present or within their control.

In response to a low escapement to the Deshka River in 1993, an emergency order was issued prior to the 1994 season which: (1) prohibited the use of bait throughout the Deshka River drainage, and (2) reduced the possession limit for chinook salmon greater than 16 inches in length to one fish in the Deshka River drainage. In combination with current areawide regulations, managers believed these actions would reduce the recreational harvest by half in the Deshka River. A low harvest by the Northern District commercial fleet during the early portion of its 1994 season, in combination with poor catch rates in the Alexander and Lake creeks recreational fisheries, indicated that a low return of chinook salmon to the Susitna River drainage was occurring. In response, an emergency order was issued effective June 17, 1994, which closed the Deshka River to fishing for chinook salmon and

prohibited the use of bait in the majority of the Susitna River drainage. In addition, the remaining periods of the Northern District commercial setnet fishery were closed.

Aerial survey evaluation of streams in the Westside Susitna Management Unit during 1994 showed a fourth consecutive year of reduced chinook salmon abundance (Table 27). BEGs were not achieved within any of the index streams during the 1994 season. This prompted the regulations adopted during the 1994 BOF meeting that were intended to decrease the 1995 chinook salmon harvest to half the 1994 level. Regulations adopted during the 1996 meeting were established to further conserve the chinook salmon resource in efforts to meet established BEGs (Appendix F). In 2002 BEGs were reevaluated and a new method was developed for setting escapement goals as ranges instead of a single point. Using the new escapement goals all streams obtained the lower point of their range for the years 1997-2002 except Alexander Creek which fell 164 fish short in 2002 (Table 27).

Recent Fishery Performance

The 2002 chinook salmon fishery for all Westside Susitna River Management Unit streams resulted in a harvest of 11,357 chinook salmon, 93% of the 1997-2001 mean (Appendix A7). The 2002 escapement surveys resulted in all streams except Alexander Creek achieving their escapement goals (Table 27).

Early in the 2003 season catch information from the sport harvest at Alexander Creek indicated the beginning of an average return for that stream. The final Deshka River weir count for 2003 totaled 39,496 exceeding the SEG range of 13,000-28,000 (Table 27) (Bue and Hasbrouck 2001).

Inseason reports from lodge owners, guides and anglers further up the Susitna drainage at Lake Creek and the Talachulitna River indicated that the 2003 chinook salmon return was above average. This was supported by a record high escapement survey on Lake Creek and the second highest on record for the Talachulitna River (Table 27).

Age, sex and length samples were collected from the chinook salmon passing through the Deshka River weir (Table 31). Male chinook salmon accounted for 54% of the sample in 2003, with age-1.2, -1.3 and -1.4 fish representing 36%, 49% and 14% of the sample, respectively.

Management Objectives

During the February 2002 BOF meeting escapement goals were reviewed based on the Policy for the Management of Sustainable Salmon Fisheries and the Policy for Statewide Salmon Escapement Goals, both adopted by the BOF during winter 2000-2001. Sustainable Escapement Goal (SEG) ranges for four Westside Susitna Management Unit systems (Lake, Alexander, Peters creeks and the Talachulitna River) were established (Table 21). These escapement goals were based on historic aerial counts of escapement index areas. A weir-based biological escapement goal (BEG) range of 13,000-28,000 fish was established for the Deshka River at the same time, based on actual escapement, age, and harvest data gathered at the weir. The management objective for these five systems is to achieve the escapement goals while providing maximum levels of chinook salmon fishing opportunity.

In the Talachulitna River, only single-hook artificial lures may be used to allow for the sustained yields of trophy-sized rainbow trout. Full utilization of chinook salmon within this drainage is not a primary objective.

Recent Board of Fisheries Actions

Regulations affecting the Westside Susitna Management Unit adopted by the BOF during the February 2002 meeting were:

1. Increase possession limit to two kings for West Susitna River tributaries (excluding Alexander Creek).
2. Allow use of bait on Deshka River from its mouth upstream to a marker at River Mile 17 and within ½ mile of its confluence with the Susitna River June 8-August 31.
3. In addition, during 2002 the BOF established a weir-based BEG range of 13,000-28,000 fish for the Deshka River and established SEG ranges for Alexander, Lake, and Peters creeks and the Talachulitna River.

The next BOF meeting concerning westside Susitna River chinook salmon fisheries will take place in February 2005.

Current Issues

Alexander Creek has fallen below its SEG range during 2002 and 2003 and exceeded the lower point of its range by only approximately 200 fish the previous 2 years. During escapement surveys it has become obvious the number of fish in the upper reaches of the drainage, the Alexander Lake area downstream to Sucker Creek, has declined dramatically from the number that were observed prior to the mid 1990s. It is believed that northern pike are responsible for the decline. If the escapement declines further in the next couple years some changes in the chinook fishery may be warranted.

Improved or expanded access to the western drainages of the Susitna River is yet another issue confronting the fisheries of this area. Numerous recreational support industries that service the area as well as residents of the area favor retention of the region's wilderness (roadless) features. Many other interests support an expanded road system within the area that would promote development of mineral, forest, agricultural and recreation resources as well as enhance private settlement of the area. The issue of transportation corridors is addressed in Whitmore et al. 1993.

Recent logging activity along upper Deshka River tributaries may have an impact on juvenile chinook salmon rearing habitat. Increased access due to the accompanying logging activity may also lead to increased harvest.

Ongoing Research and Management Activities

Escapement index counts by aerial survey have been performed annually on major westside Susitna River chinook salmon populations since the mid 1970s. Harvest trends for most Westside Susitna Management Unit stocks have also been assessed by the SWHS since chinook salmon fishing reopened in 1979.

A weir has been in place on the Deshka River since 1995 where biological information is collected (Table 31), returning adult chinook salmon are counted and harvest upstream of the weir is recorded (Appendix H1). Information collected at the weir is used to indicate run strength, important for timely inseason management of this fishery. Eight seasons of accurate escapement and age information now exist for the Deshka chinook stock. The weir has also increased our understanding of the relationship

between aerial surveys and total run size. The Deshka River weir will be operational during the 2004 season.

As regulations become more numerous and restrictive, department personnel have become more involved in regulation enforcement; specifically, inspecting fishing licenses and harvest records.

Recommended Research and Management Activities

The Deshka River weir project should be continued to provide biological data and inseason return information.

Chinook salmon escapement monitoring should be continued. Harvest trends should be evaluated annually through the SWHS. We recommend that harvest, escapement and carcass sampling be conducted at the Deshka River, and catch sampling be conducted at Alexander and Lake creeks. Age, sex and size information collected from these fisheries is necessary for development of brood tables, with the goal of refining escapement goals and developing forecast techniques for these stocks.

Enforcement activities by department staff should continue to supplement Fish and Wildlife Protection.

West Cook Inlet Management Unit Chinook Salmon Fisheries

Fishery Description and Historical Perspective

Prior to 2000 the West Cook Inlet Management Unit extended south from the mouth of the Susitna River to the West Foreland of Cook Inlet (Figure 18). Beginning in 2000 it was expanded to include all waters along the westside of Cook Inlet to the latitude of the southern tip of Chisik Island. Streams of this area, with the exception of the Chakachatna-McArthur and the Beluga River drainages, are relatively small clearwater coastal drainages that originate in the Alaska Range, Aleutian Range or from slopes of Mount Susitna. The Chakachatna-McArthur and Beluga River drainages are largely glacial and receive minor use by chinook salmon fishermen. Beginning in 2000 the data in this report reflect harvest, effort and catch data from the area described as the expanded management unit.

Access to the coastal fisheries within the West Cook Inlet Management Unit is by air or water because there is no road link to the Southcentral Alaskan highway system. A road network, built to facilitate oil and gas exploration and the timber industry, does exist in the Tyonek/Beluga area. Several gravel aircraft landing strips are present and a few roads also serve as runways. The village of Tyonek, with a population of nearly 300 people, is the area's primary population center.

Chinook salmon begin to arrive in the area during late May with the peak of most fisheries occurring during mid to late June. The stock is also harvested in a targeted Northern District set gillnet fishery and the Tyonek subsistence fishery. Commercial fishing is permitted to within 500 yards of the mouths of several streams.

Participation in West Cook Inlet fisheries peaked in 2000, with nearly 18,500 days of effort (Table 5). The average participation level for 1977-2001 equals 10,567 angler-days.

The Theodore, Chuitna and Lewis rivers are the area's most prominent chinook salmon fisheries. The collective annual harvest of chinook salmon from all streams from 1997 through 2001 ranged from 693 to 1,163 fish and averaged 909 fish (Appendix A9). Access to this area is by helicopter in the upper reaches of these streams and by airplane combined with vehicle to the lower reaches. Streams south of

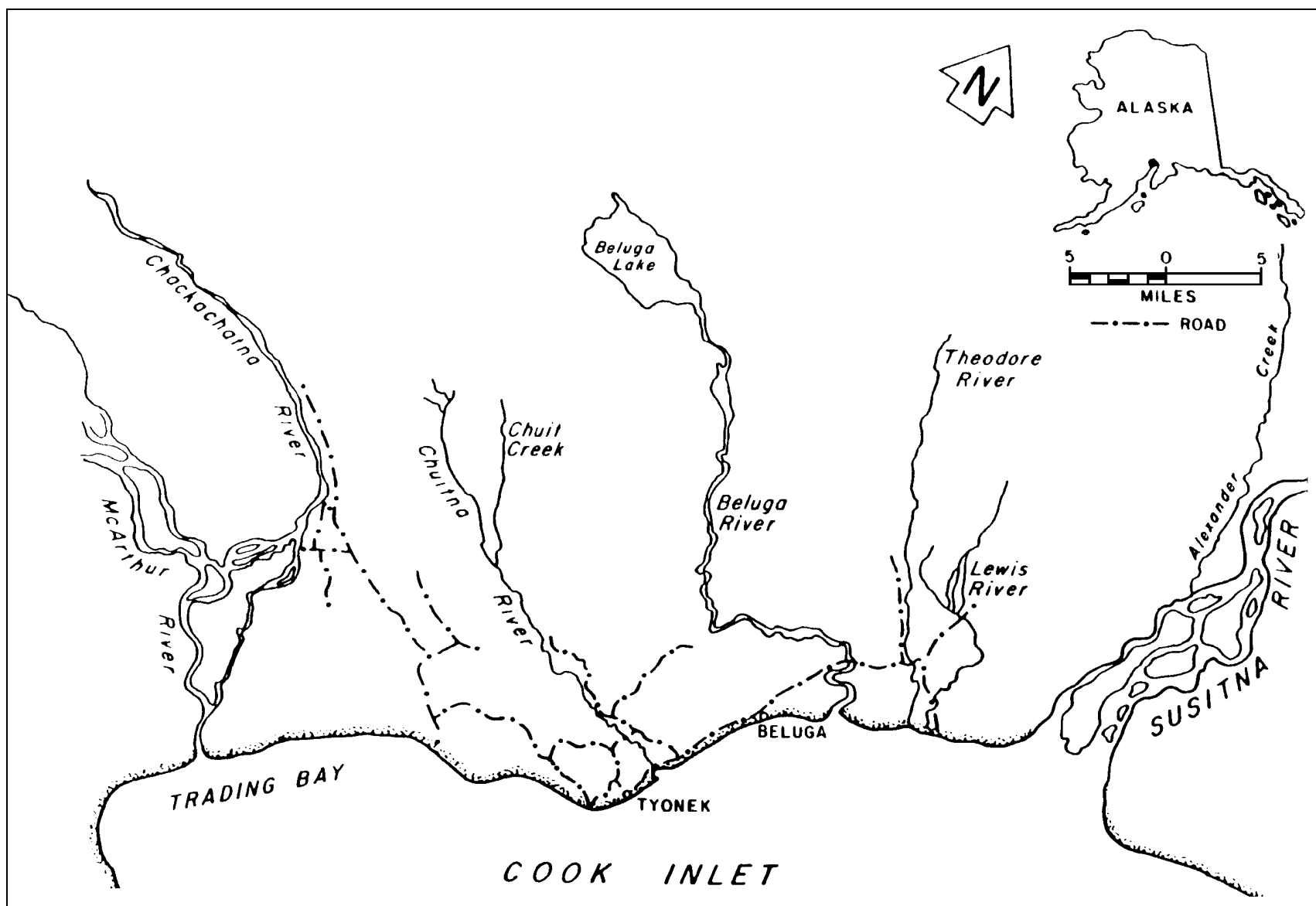


Figure 18.-West Cook Inlet coastal streams.

the West Foreland, namely the Kustatan River and Polly Creek, support small returns of chinook salmon and generate little harvest.

In the West Cook Inlet Management Unit in the 1990s, some streams observed spawning escapements did not always reach their goal (Table 32). The reduced abundance of spawning chinook salmon in the West Cook Inlet Management Unit cannot be attributed solely to elevated instream participation and harvest. Weak returns were also caused by flood-related mortality of eggs and juveniles that occurred in 1986. Inspection of the coastal streams after the October 1986 flood revealed substantial streambed scouring and rechannelization. In association with the flooding there was severe erosion, landslides and subsequent deposition of earth and debris into the streams. The 1993 escapement index count showed an improvement over the previous 4 years but dropped again in 1994. The 1994-1996 escapement counts for all streams were low. This trend finally reversed in 1997-1999 when all West Cook Inlet goals were reached (Table 32). Run strength continues to be good through 2003, although the escapement count for the Chuitna River fell 50 fish short of the low end of its goal in 2001.

Recent Fishery Performance

The estimated 2002 West Cook Inlet harvest totaled 1,227 chinook salmon, exceeding the previous 5-year mean of 909 (Table 11). Aerial surveys in 2002 indicated returns at approximately the mid point of SEG ranges (Table 32).

The Chuit River is the main indicator for gauging the strength of chinook salmon runs to West Cook Inlet Management Unit (WCIMU) streams. Catch information in 2003 from anglers fishing the Chuit indicated a strong run. Spawning escapement surveys indicated that the Chuit and Theodore rivers each met their SEGs and the Lewis River exceeded the upper end of its SEG range with its highest count on record.

Management Objectives

Sustainable escapement goals (SEG) for three West Cook Inlet Management Unit streams were established in 2002 (Table 21). These escapement goals were based on historic escapement index counts. The management objective for these three streams is to achieve the escapement goal while providing maximum levels of sustained chinook salmon fishing opportunity.

Recent Board of Fisheries Actions

During the February 2002 BOF meeting the following regulations were adopted:

1. The Clearwater and Roscoe creek drainages are closed year-round to all fishing upstream from a marker ½ mile upstream of their confluences with the Chinitna River.
2. Allow a catch-and-release fishery in the entire Theodore and Lewis rivers. No bait, single hook only.
3. In the Northern District King Salmon Management Plan: The commercial setnet fishery will open on the first Monday on or after May 25 and close June 24. The number of commercial periods will depend upon expected northern Cook Inlet king salmon run strength and there shall be no more than three commercial openings targeting kings. The area from an ADF&G marker located 1 mile south of the Theodore River to the Susitna River is open to fishing in the second regular period only. If the Theodore, Lewis or Ivan rivers are closed to sport fishing, the area from an ADF&G regulatory marker located 1 mile south of the Theodore River to the Susitna River is closed to

Table 32.-West Cook Inlet Management Unit chinook salmon escapement index counts (aerial), 1979-2003.

Year ^a	Chuitna River	Theodore River	Lewis River	Coal Creek	Other Streams ^c	Total WCI
1979	1,246	512	546		236	2,540
1980 ^b						
1981	1,362	535	560		1,144	3,601
1982	3,438	1,368	606		1,972	7,384
1983	4,043	1,519	^b		^b	5,562
1984	2,845	1,251	947		^b	5,043
1985	1,600	1,458	861		700	4,619
1986	3,946	1,281	722		165	6,114
1987 ^b		1,548	875		^b	2,423
1988	3,024	1,906	616		^b	5,546
1989	990	1,026	452		^b	2,468
1990	480	642	207		^b	1,329
1991	537	508	303		^b	1,348
1992	1,337	1,053	445		^b	2,835
1993	2,085	1,110	531		156	3,882
1994	1,012	577	164		368	2,121
1995	1,162	694	146	221		2,223
1996	1,343	368	257	424		2,392
1997	2,232	1,607	777	471		5,087
1998	1,869	1,807	626	503		4,805
1999	3,721	2,221	675	1195		7,812
2000	1,456	1,271	480	757		3,964
2001	1,150	1,237	502	1,154		4,043
2002	1,394	934	439	882		3,649
2003	2,339	1,059	878	698		4,974
Mean	1,940	1,146	548	701	677	3,990
SEG ^d	1,200-2,900	500-1,700	250-800			

^a Aerial count unless otherwise indicated.

^b No count conducted, turbid water.

^c May include Olsen, Nikoli, Coal, Straight, Bishop, Drill, and Scarp creeks.

^d Sustainable escapement goal.

commercial king salmon fishing for the remainder of the directed king salmon fishery. If the Deshka River is closed to sport fishing, the commercial king salmon fishery throughout the Northern District is closed for the remainder of the directed king salmon fishery. If the Chuitna River is closed to sport fishing, the area from an ADF&G marker located 1 mile south of the Chuitna River to the Susitna River is closed to commercial king salmon fishing for the remainder of the directed king salmon fishery.

The next BOF meeting concerning the West Cook Inlet Management Unit chinook salmon fisheries will be in February 2005.

Current Issues

In 2002 the Theodore and Lewis rivers were opened in their entirety to catch-and-release fishing for king salmon. Both should be watched closely to detect any detrimental effects from this fishery.

The Beluga River drainage has supported an increased number of anglers in recent years. Several air taxi operators and area lodges drop anglers and guides at the confluence of Coal Creek and Beluga Lake. A survey of this area should be conducted to determine impacts of increased use.

Angler trespass on Tyonek Native Corporation (TNC) lands along the Chuitna River has been an issue for many years. Representatives of the State of Alaska have had several meetings with TNC members in efforts to resolve this problem. Although the State believes that under state law the public may stand or walk on any part of the river bed below the ordinary high water mark, TNC has informed the state that it views such activity on the south half of the river bed as trespass. There are two ways for the public to access the Chuitna River without trespassing on private lands. There is public access from the north across Kenai Peninsula Borough property and from the Pan Am Road at Mile 7.

Timber sales adjacent to WCI streams may have an adverse impact on juvenile salmon rearing habitat. Additionally, increased access due to logging activity may lead to additional harvest.

Ongoing Research and Management Activities

Research and management activities directed at these fisheries have consisted of periodic onsite creel observation and regulation enforcement activities, annual assessment of chinook salmon escapement by helicopter, and estimation of annual harvest by the SWHS.

Recommended Research and Management Activities

Chinook salmon fishery monitoring should be continued. Harvest trends should be evaluated annually through the SWHS. Escapement surveys should be continued in order to manage these fisheries based on established SEGs. Streams south of the West Foreland should be investigated by aerial survey during the spawning season in order to gain some insight into the expanded management unit.

Enforcement activities should be continued to ensure compliance with existing regulations.

COHO SALMON FISHERIES

Recreational harvests of coho salmon in the NCIMA ranged from 17,206 to 105,252 fish from 1977 through 2001, and averaged 55,753 fish (Mills 1979-1994, Howe et al. 1995, 1996, 2001 a-d, Walker et al. 2003; and Jennings et al. *In prep a*) (Table 7 and Appendix A11). During 1997 through 2001 NCIMA harvests accounted for 19% of the coho salmon harvests in the Southcentral region and 11% of the statewide harvests (Table 33). Within the NCIMA, the Knik Management Unit, which

includes the Little Susitna River, accounted for the largest harvest of coho salmon through 2001 with the exception of 1999 and 2000 when Eastside Susitna Unit surpassed it. The Eastside Susitna Unit normally is a close second followed by the Westside Susitna Unit. The West Cook Inlet Management Unit, with fewer accessible streams, is a distant fourth in average harvest. Harvests of coho salmon in the Knik Management Unit are dominated by harvests from the Little Susitna River while harvests from other management units are distributed across several systems (Appendices A12-A19).

Table 33.-Northern Cook Inlet Management Area recreational harvest of coho salmon by management unit as estimated by SWHS, 1977-2002.

Year	Northern Cook Inlet Management Area					South-central Region Total	% by NCIMA	Alaska Total	% by NCIMA
	Knik Arm	Eastside Susitna	Westside Susitna	West Cook Inlet	Total Harvest				
1977	4,366	5,709	6,599	532	17,206	67,866	25	105,004	16
1978	7,895	8,573	10,173	378	27,019	81,990	33	131,945	20
1979	7,139	7,564	9,036	337	24,076	93,234	26	119,329	20
1980	16,030	10,368	12,141	628	39,167	127,958	31	164,302	24
1981	10,484	6,593	5,940	604	23,621	95,376	25	125,666	19
1982	13,676	10,167	10,658	745	35,246	136,153	26	195,644	18
1983	6,139	5,176	3,610	2,552	17,477	87,935	20	149,270	12
1984	23,429	13,916	9,511	2,681	49,537	166,688	30	238,536	21
1985	14,339	7,042	11,270	6,320	38,971	137,671	28	200,773	19
1986	12,361	16,190	13,117	4,222	45,890	188,872	24	255,887	18
1987	25,787	11,028	8,746	8,548	54,109	176,710	31	235,435	23
1988	40,037	19,518	16,283	7,403	83,241	225,812	37	281,450	30
1989	23,846	17,078	18,226	7,683	66,833	237,155	28	338,195	20
1990	18,762	11,743	13,883	6,016	50,404	214,114	24	325,936	15
1991	22,186	19,479	20,507	8,253	70,425	254,961	28	389,569	18
1992	25,814	33,790	16,218	7,037	82,859	237,204	35	345,513	24
1993	35,763	26,063	15,454	10,326	87,606	283,868	31	412,487	21
1994	28,539	20,870	15,361	8,247	73,017	299,849	24	502,948	15
1995	20,650	19,165	17,148	8,182	65,145	263,749	25	368,631	18
1996	24,874	24,174	17,375	11,430	77,853	328,178	24	503,413	15
1997	11,773	10,297	7,123	6,492	35,685	283,311	13	462,931	8
1998	23,750	23,086	13,235	8,160	68,231	375,742	18	600,862	11
1999	14,429	23,292	17,995	9,339	65,055	309,564	21	632,829	10
2000	32,530	37,748	23,262	11,712	105,252	419,835	25	624,327	17
2001	30,106	26,617	19,221	13,949	89,893	480,048	19	811,799	11
1977-2001									
Mean	19,788	16,610	13,284	6,071	55,753	222,954	26	340,907	18
1997-2001									
Mean	22,518	24,208	16,167	9,930	72,823	373,700	19	626,550	11
% of NCIMA 1997-2001	31	33	22	14					
2002	44,448	27,183	14,144	13,380	99,155	488,911	20	776,033	13

In addition to recreational harvests, NCIMA area coho salmon stocks contribute to Cook Inlet commercial harvests. Commercial harvests of coho salmon in Upper Cook Inlet commercial fishing

districts averaged 451,100 fish during 1977-1996, followed by an average of 172,573 during 1997-2002 (Appendix B2). The Central District drift gillnet fishery accounted for approximately one-half of the average harvest (Appendix B3). Significant numbers of NCIMA-bound coho salmon are harvested in the Western subdistrict of the Central District and in the General and Eastern subdistricts of the Northern District (Appendices B4-B7 and B9). The remaining commercial harvests of coho salmon are from several smaller subdistricts within the Central District (Fox and Shields 2003).

Management strategies for NCIMA coho salmon begin to develop as the stocks enter Cook Inlet and are intercepted by the commercial fishery. The magnitude, catch per unit effort, and distribution of the commercial harvest are the first indicators of general run strength. Comparison between years can be difficult as fishery restrictions may vary from year to year. As coho salmon enter fresh water, the department has had very limited ability to gauge overall run size. Until 1997, counting weirs at the Little Susitna River and the Deshka River provided the only quantitative measure of coho abundance in the many drainages of Northern Cook Inlet. Beginning in 1997, weirs were also operated in Wasilla, Cottonwood and Fish creeks. Fish wheels and sonar on the Yentna River, and foot and aerial index counts for a few streams also contribute to our understanding of relative abundance.

In response to a poor return of coho salmon to Cook Inlet in 1997, emergency orders were issued to close the commercial fishery and to institute an areawide bag limit reduction and bait prohibition for wild stock recreational fisheries. Restrictive action was again taken in the commercial fishery in 1998 because of a poor sockeye return. Because of the nature of the mixed-stock fishery, this action undoubtedly put more coho salmon on the spawning grounds. No additional action was required in the sport fishery during 1998 as instream coho abundance seemed to be above average. In 1999, poor returns again forced managers to take action in the sport and commercial fisheries. Unfortunately these actions were instituted too late to increase coho salmon inriver abundance. Low abundance of coho salmon to UCI streams prompted the governor and users to submit a request to the BOF to meet out of cycle and address this conservation problem. The BOF met in February 2000 and significant actions to both the sport and commercial fisheries were taken to reduce the overall harvest of Cook Inlet coho salmon.

A creel survey to estimate coho salmon harvest and fishing effort was conducted at the Little Susitna River from 1982 through 1993. Intermittent or partial creel survey data have also been collected from other coho salmon fisheries.

Knik Arm Management Unit: Little Susitna River Coho Salmon Fishery

Background and Historical Perspective

The harvest of Little Susitna River coho salmon has ranged from 2,835 to 27,610 during 1977 to 2001 (Table 34) (Mills 1979-1994, Howe et al. 1995, 1996, 2001 a-d, Walker et al. 2003, and Jennings et al. *In prep a*). It has been a consistent second to the Kenai River, which supports the largest freshwater coho salmon harvest in Alaska.

Coho salmon escapements to the Little Susitna River were measured by weir in 1986 and from 1988 through 2003. Prior to 1986, coho salmon escapement abundance was indexed by ground and/or aerial methods when water conditions permitted. In 1986 the weir was damaged for several days by floodwaters and the escapement count through the weir was incomplete (Table 35). Weir counts from 1988 through 1995, when the weir was installed at River Mile (RM) 32.5, averaged 21,428 coho

Table 34.-Harvest and effort for Little Susitna River coho salmon as estimated by SWHS, 1977-2002.

Year	Harvest			Annual Effort	
	Hatchery ^a	Nonhatchery	Total ^b	Released	Angler days ^c
1977		3,415	3,415		11,063
1978		4,865	4,865		12,127
1979		3,382	3,382		21,301
1980		6,302	6,302		22,420
1981		5,940	5,940		26,162
1982		7,116	7,116		24,020
1983		2,835	2,835		35,477
1984		14,253	14,253		48,517
1985		7,764	7,764		37,498
1986	109	5,930	6,039		45,776
1987	3,407	9,596	13,003		35,659
1988	9,638	9,371	19,009		49,731
1989	10,597	3,550	14,129		54,708
1990	2,242	5,255	7,497	4,906	40,159
1991	7,699	8,751	16,450	4,692	50,838
1992	3,406	16,627	20,033	7,960	49,304
1993	7,703	19,907	27,610	10,589	42,249
1994	6,165	11,500	17,665	4,576	45,149
1995	2,991	11,460	14,451	5,042	41,119
1996	3,418	13,335	16,753	5,445	24,575
1997	0	7,756	7,756	2,242	27,883
1998	0	14,469	14,469	4,558	22,108
1999	0	8,864	8,864	3,036	30,437
2000	0	20,357	20,357	11,160	39,556
2001	0	17,071	17,071	7,565	33,521
Mean	3,586	9,587	11,881	5,981	34,854
Prior 5 yr average		13,703	13,703	5,712	30,701
2002	0	19,278	19,278	11,304	40,346

^a Participation directed at coho salmon represents only a portion of the annual effort.

^b Bartlett and Conrad 1988, Bartlett and Vincent-Lang 1989, Bartlett and Sonnichsen 1990, Bartlett and Bingham 1991, Bartlett 1992-1994, 1996a and b.

^c Mills 1979-1994; Howe et al. 1995, 1996, 2002a-d; Jennings et al. *In prep* a and b.

Table 35.-Knik Arm drainage coho salmon escapement index counts, 1981-2003.

Year	Little Susitna River ^{a/b}			Fish Creek Weir ^c	Cottonwood Ck Weir	Cottonwood Ck ^a Survey	Wasilla/Spring Ck Weir	Wasilla Creek Drainage ^d				Knik River Drainage ^e						Grand Total ^g
	Hatchery	Non-hatchery	Total					Wasilla Creek Mainstem	Spring Creek (Upper)	Spring Creek (Flats)	Wasilla Creek Total	Matanuska River ^h Yellow Creek	McRoberts Creek	Upper Jim Creek	Total	Jim Ck Weir	Eklutna Tailrace	
1981			6,750	2,382	2,436 ^h	423		238	^d	64	302				^d			9,857
1982			6,800	5,201	2,064 ^h	737		171	^d	105	276	^d			^d			13,014
1983			2,666	2,342		506		4	^d	28	32	^d			^d			5,546
1984			22,206	4,510		935		876		90	966	^d			^d			28,617
1985			3,889	5,089		334		16	150	81	247	65	662		662		266	10,552
1986			6,999 ^e	2,166		121		^d	141	147	288	20	439		439		403	10,436
1987			4,865	3,871		360		251	110	42	403	58	667		667		1,587	11,811
1988	4,428	16,063	20,491	2,162		293		^d	82	30	112	110	1,911		1,911		1,848	26,927
1989	6,862	8,370	15,232	3,479		147		^d	67	39	106	226	597		597		253	20,040
1990	3,370	10,940	14,310	2,719		167		34	38	12	84	146	599	589	1,188		668	19,282
1991	8,322	29,279	37,601	1,297		158		118	16	5	139	136	484	418	902		286	40,519
1992	2,324	19,069	20,393	1,705		6		3	11	0	14	57	11	59	70		39	22,284
1993	9,615	23,763	33,378	2,328		265		^d	67	69	136	490	503	535	1,038	5,532	496	38,131
1994	5,124	22,696	27,820	350		232		282	76	60	418	172	506	2,119	2,625	6,451	714	32,331
1995	1,069	10,748	11,817	390		242		46	20	38	104	220	702	1,288	1,990		107	14,870
1996	444	16,255	16,699	682		168		84	30	29	143	101	72	439	511		224	18,528
1997			9,894	2,578	936	386		156	38	35	229	367	701	563	1,264		350	15,068
1998			15,159	5,463	2,114	537	3,614/163	120 ^f	31 ^f	25	176	302	922	560	1,482			23,119
1999			3,017	1,766	478 ^j	131 ⁱ	1,579 ^j /8	211	40	16	267	88	12	320	332			5,601
2000			15,436	5,979	1,888 ^j	879 ⁱ	6,154/0	380 ^f	224	50	654	169	657	2,561	3,218			26,335
2001			30,587	10,047	3,525 ^j	974 ⁱ	6,508/276	453	37	15	505	419	1,019	575	1,594			44,126
2002			47,938	14,651	4,270 ^j	1,243 ⁱ	12,495	933	188	75	1,196	65	2,473	1,630	4,103			69,196
2003			10,877	1,221	791 ^j	226 ⁱ	2,962	2,962	17	50	3,029	53	1,421	393	1,814			17,220
Mean	4,618	17,465	16,731	3,582	1,888	412	7,729	386	73	48	2,113	172	756	861	1,390	5,992	557	22,757
SEG			10,100-		1,200- 800-2,200													
Range			17,700		4,400													

^a Foot surveys unless otherwise noted.^b Foot and aerial surveys 1981-1985 and 1987. Weir counts from weir at River Mile 34, 1986, 1988-1995; RM 71, 1996-2000.^c 1982-1991 weir count plus stream survey; 1992, 1993 weir count; 1994-1996 weir was removed on August 15 before the majority of the coho run. In 1997 the weir was out on September 1; in 1998 it was out September 27; in 1999 it was out September 26.^d No survey conducted.^e Weir washed out in flood from July 21-July 29, 1986.^f Count conducted late due to high water.^g Grand total includes Little Susitna total, Fish Creek weir, Cottonwood Creek survey, Wasilla Creek survey total, Yellow Creek, McRoberts Creek/Jim Creek total and Eklutna Tailrace.^h Combination weir and foot survey. Weir was removed prior to completion of coho run.ⁱ Beginning in 1999 highest count of three counts in a 2-week period.^j Includes fish counted below weir at close of season.

salmon. Beginning in 1996 the weir was moved upstream to RM 71 making direct comparison of counts impossible. During 1997 and 1999, when the whole of the NCIMA experienced poor coho salmon returns, escapements were less than half the average of 19,819 from 1996 through 2002 (Table 35). A record escapement of 47,938 coho salmon was recorded for 2002.

Access to the Little Susitna River occurs at three primary locations: (1) intertidal waters of the river are accessed by boats crossing the marine waters of Knik Arm from the Port of Anchorage public boat launch, (2) the road-accessible Little Susitna Public Use Facility which includes a launch and campground, and (3) private and public launches near the Parks Highway which provide access to the upper reaches of the river. The Little Susitna Public Use Facility is by far the most heavily used access to the river. Powerboats can travel from the mouth of the river to the Parks Highway during periods of moderate to high water levels. However, during low flows travel is restricted to smaller jet boats between River Mile 28 and the Parks Highway at River Mile 70.

Coho salmon return to the Little Susitna River primarily from mid-July through early September. Tagging studies indicate that coho salmon migrate slowly up the Little Susitna River and remain available to the fishery for about 4 weeks, after which they pass the George Parks Highway Bridge into waters closed to fishing for salmon. Spawning takes place from late September through mid-October. Spawning primarily occurs upstream from the George Parks Highway in the mainstem of the river, but some spawning occurs in tributary streams.

Supplemental coho salmon stocking occurred at the Little Susitna River from 1982-1995 (Table 36). Fingerling plants dominated the initial years of stocking but these releases generally yielded low returns. Beginning in 1987, returns from smolt releases started to make significant contributions to the sport harvest. The 1995 smolt release in Nancy Lake was the last stocking of hatchery coho salmon for the Little Susitna River. It was decided that with the strength of the natural run and the high cost of hatchery enhancement it was no longer cost effective to stock the Little Susitna River.

A summary of enhancement activities can be found in the following ADF&G Fishery Data Series reports: Bartlett and Conrad 1988, Bartlett and Vincent-Lang 1989, Bartlett and Sonnichsen 1990, Bartlett and Bingham 1991, Bartlett 1992-1994, 1996a, 1996b.

The Little Susitna River coho salmon sport fishery has been managed in accordance with the Little Susitna River Coho Salmon Management Plan (5 AAC 61.060) since 1991 and as modified following the 1992 and 1996 seasons. Currently the bag and possession limits are two coho salmon 16 inches or more in length per day and in possession.

Only unbaited, artificial lures are allowed in the Little Susitna River between October 1 and August 5. This requirement was originally designed to reduce the catch rate of the early arriving nonhatchery stock and remains in effect to reduce hook-and-release mortality. The hook-and-release mortality of bait-caught, ocean-fresh coho salmon has been documented to be approximately 70% (Vincent-Lang et al. 1993). The management plan allows the use of bait beginning August 6. Downstream of the old weir site at River Mile 32.5 anglers are required to quit fishing when a bag limit of Little Susitna coho salmon is harvested. Coho salmon intended to be released cannot be removed from the water. This requirement also helps reduce hook-and-release mortality.

Table 36.-Coho salmon stocking history for the Little Susitna River, 1982-1996.

Year	Fingerling Release			Smolt Release			Total	Number		
	Size (gm)	Number Released	Number Marked	Size (gm)	Number Released	Number Marked	Number Released	Recovery Year	Recovered in Harvest	% of Harvest ^a
1982	0.57	2,950					2,950			
1983	0.57	216,508	20,835				216,508			
1984	0.91	426,216	10,000				426,216			
1985	0.30	1,225,00 ⁿ	10,004	17.1	54,394	12,151	1,279,394			
1986	1.00	316,270 ⁿ		17.2	580,065	24,401	580,065	1986	109	18
1987				19.2	301,167	24,650	301,167	1987	3,407	26
1988	1.00	3,374,12 ⁿ	3,126	20.1	446,016	24,628	3,820,142	1988	9,638	51
1989		6		19.8	354,897	25,631	354,897	1989	10,597	75
1990	1.1-2.0	473,327	72,327	20.8	308,356	45,220	781,683	1990	2,242	30
1991				22.2	277,762	46,358	277,762	1991	7,699	47
1992				23.8	312,925	38,786	312,925	1992	3,406	17
1993				19.0	279,873	40,242	279,873	1993	7,703	28
1994				19.7	126,694	43,818	126,694	1994	6,165	35
1995				21.3	151,985	45,245	151,985	1995	2,991	21
1996							0	1996	3,418	23
Mean									5,215	34

^a Bartlett and Conrad 1988, Bartlett and Vincent-Lang 1989, Bartlett and Sonnichsen 1990, Bartlett and Bingham 1991, Bartlett 1992-1994, 1996 a and b.

Creel and escapement observations have shown that coho salmon abundance at the Little Susitna River fluctuates widely. Inriver returns (escapement plus sport harvest) ranged from approximately 12,000 to 61,000 during 1988 through 2001 (Tables 34 and 35).

Recent Fishery Performance

During 2002 the SWHS estimated 19,278 coho were harvested for the Little Susitna River, well above the 1997-2001 mean of 13,703 (Table 34). The final weir count totaled 47,938 for 2002 (Table 35) which represented the largest return ever recorded and was 270% of the upper end of the SEG range.

During 2003 fishery guides and anglers were reporting average catches of coho salmon throughout the season. A total of 10,877 coho salmon were counted through the Little Susitna River weir at River Mile 71 (Table 35, Appendix H5), just reaching the lower point of the SEG range.

Coho salmon were sampled for age and sex composition and mean length-at-age at the Little Susitna River weir in 2003. Male coho salmon accounted for 54% of the sample, with age-1.1, -2.1 and -3.1 fish representing 27%, 66% and 7% of the sample, respectively (Table 37).

Table 37.-Sex and age composition and length-at-age of coho salmon sampled from Little Susitna River, Cottonwood Creek, Fish Creek, Wasilla Creek, and Deshka River weirs, 2003.

Age Class	Little Susitna River			Cottonwood Creek				Fish Creek				Wasilla Creek			Deshka River			
	1.1	2.1	3.1	1.1	2.1	3.1	4.0	1.1	2.1	3.0	3.1	1.1	2.1	3.1	1.1	1.2	2.1	3.1
Male																		
Percent	16.2	34.7	2.8	19.7	36.5	2.2		21.8	41.2	0.4	1.2	22.0	37.3	1.9	20.5	0.3	36.1	0.6
SE	1.7	2.2	0.8	2.4	2.9	0.9		2.6	3.2	0.4	0.7	2.3	2.7	0.8	2.2	0.3	2.6	0.4
Mean Length-mm ^a	571	593	609	491	521	508		512	520	280	528	544	542	582	559	580	583	535
SE	4.3	3.2	8.4	6.6	5.2	15.1		6.3	5.0		52.6	6.4	5.0	29.1	6.2		4.0	65.0
Sample size	76	163	13	54	100	6		53	100	1	3	71	120	6	71	1	125	2
Female																		
Percent	10.9	31.7	3.8	9.9	29.2	2.2	0.4	6.6	28.0		0.8	12.7	25.8	0.3	13.9	0.3	27.2	1.2
SE	1.4	2.1	0.9	1.8	2.7	0.9	0.4	1.6	2.9		0.6	1.9	2.4	0.3	1.9	0.3	2.4	0.6
Mean Length-mm ^a	577	591	591	506	530	511	385	527	546		573	524	545	455	559	640	577	578
SE	3.9	1.9	10.1	11.8	5.4	27.3		12.6	5.9		57.5	9.6	5.5		5.4		3.4	16.5
Sample Size	51	149	18	27	80	6	1	16	68		2	41	83	1	48	1	94	4
Combined																		
Percent	27.0	66.4	6.6	29.6	65.7	4.4	0.4	28.4	69.1	0.4	2.1	34.8	63.0	2.2	34.4	0.6	63.3	1.7
SE	2.0	2.2	1.1	2.8	2.9	1.2	0.4	2.9	3.0	0.4	0.9	2.7	2.7	0.8	2.6	0.4	2.6	0.7
Mean Length-mm ^a	573	592	598	496	525	510	385	516	530	280	546	537	543	564	559	610	580	563
SE	3.0	1.9	6.9	5.9	3.8	14.9		5.7	3.9		35.8	5.4	3.7	30.5	4.3	30.0	2.7	21.7
Sample Size	127	312	31	81	180	12	1	69	168	1	5	112	203	7	119	2	219	6
Total Percent Male (SE)	53.6 (2.3)			58.4 (3.0)				64.6 (3.1)				61.2 (2.7)			57.5 (2.7)			
Total Percent Female (SE)	46.4 (2.3)			41.6 (3.0)				35.4 (3.1)				38.8 (2.7)			42.5 (2.7)			
Total Sample Size	470			274				243				322			346			

^a Mid eye to fork length.

Management Objectives

Management objectives for the Little Susitna River as stated in the Little Susitna River Coho Salmon Management Plan are to provide 10,100-17,700 naturally spawning coho salmon upstream of the George Parks Highway and to provide coho salmon fishing opportunity from the George Parks Highway downstream to tidewater without emergency restrictions.

Recent Board of Fisheries Actions

During the February 2002 meeting the Board adopted the following regulation changes (Appendix F1):

1. Nancy Lake Creek drainage upstream of a marker ¼ mile upstream from its mouth is closed to all salmon fishing including catch-and-release.
2. Eliminate use of bait on Little Susitna River July 14, upstream of the Little Susitna Public Use Facility.

The next BOF meeting concerning the Little Susitna coho salmon fishery will be in January 2005.

Current Issues

The strength of the Little Susitna River return is always an issue. During low years anglers question why the stocking program was abandoned and during strong years little is heard from the public. For the past three seasons angler satisfaction was high as the Little Susitna River coho returns were strong, ranging from 15,436 in 2000 to 47,938 in 2002. In 2003 mediocre fishing combined with an escapement which barely attained the low point of the SEG again brought up questions about possible stocking.

Other issues associated with Little Susitna River fisheries are:

1. Management of the area under the Recreation Rivers Act.
2. The South Big Lake Road extension to the Little Susitna River and the associated campground (Whitmore et al. 1993).
3. The damage to riparian vegetation and accelerated stream bank erosion in areas heavily used by the public. During 1996, a survey was conducted regarding angler impacts to riparian habitat on the Little Susitna River from the mouth upstream to the Parks Highway (Bartlett *Unpublished a*).
4. The management of the Little Susitna River Public Use Facility (LSPUF) including issues in regard to the use of the boat mooring facility and horsepower restrictions.
5. Weir location surfaces as an issue every few years. It has been discussed in Whitmore and Sweet 1997.

Ongoing and Recommended Research and Management Activities

Operation of the Little Susitna River weir provides run timing, age, length and sex composition and total return data. Assessment of the sport harvest is available through the SWHS.

Current regulation prohibits the use of bait from October 1 through August 5 to reduce the hook-and-release mortality and preserve the early-arriving stock. Additionally, a bag limit of two coho salmon is currently in effect for this fishery.

Although this fishery has been relatively stable for the past several years, future management planning must recognize that increased angling participation may occur. Inriver returns and the escapement of spawning stock should be maximized, in part through the enforcement of fishery regulations designed to reduce harvest efficiency during critical periods, and through habitat actions focusing on further river bank restoration and protection.

Several programs related to site maintenance, acquisition and development are discussed in the Knik Arm Management Unit chinook salmon section of this report. The location, type, and number of public recreational facilities, such as campgrounds, launches, and trails, that are ultimately constructed along the river should become a component in the long-term planning to provide diverse fishing opportunities.

Knik Arm Management Unit: Other Coho Salmon Fisheries

Background and Historical Perspective

In addition to the Little Susitna River, the Knik Arm Management Unit (Figure 1) presently supports five significant recreational coho salmon fisheries, the area's only personal use dip net fishery, and two educational permit fisheries. Fish Creek, Cottonwood Creek, and Wasilla Creek (Figure 19) are restricted primarily to intertidal fisheries that provide weekend-only salmon fishing. Weekend-only fishing has been mandatory on these streams since 1971 because harvestable stock surpluses cannot normally accommodate continuous daily exploitation. Motorboats are not permitted on Wasilla Creek during weekends from July 15 through August 15.

The Eklutna Hydroelectric Power Plant Tailrace (Figure 14) is a recreational fishery that was originally supported by coho salmon returning to the Cook Inlet Aquaculture Association's (CIAA) hatchery located at the head of the tailrace. A fish ladder links the hatchery with the tailrace, which in turn drains into the Knik River. The nonprofit Eklutna hatchery operated from 1981 through 1998. Presently hatchery fish reared at the Fort Richardson Hatchery (an ADF&G facility) support the fishery. This sport fishery is confined to the one-half-mile long tailrace. Sport anglers harvest coho and a few sockeye and chum salmon within the tailrace. Salmon of Knik River, and recently of Matanuska River, drainage origin are also harvested at the confluence of the tailrace and the Knik River. In light of recent coho restrictions the coho salmon stocking program is being increased at this site.

Next to the Little Susitna, Jim Creek is traditionally the second largest Knik Arm recreational fishery in terms of both participation and coho salmon harvest (Table 38). This stream enters the glacial Knik River about 10 river miles from salt water. Jim Lake and McRoberts and Upper Jim creeks, tributaries supporting large spawning populations, are the only areas closed to coho salmon fishing in the Jim Creek drainage. The greatest fishing effort occurs at the confluence in an area locally known as the Jim Creek Flats. Fishing effort and harvest rates in the Jim Creek Flats area are strongly influenced by the Knik River as glacial waters can inundate the entire area. Powered and nonpowered boats can access upstream reaches of Jim Creek.

Coho salmon return to the Knik Arm fisheries from late-July through August. Spawning occurs from late September through mid-October. The average weight of Knik Arm coho salmon, excluding those of Little Susitna River origin, is less than 6 pounds. In response to poor coho salmon returns in 1999, the BOF met "out of cycle" in 2000 to reduce the bag and possession limits for all Knik Arm fisheries, excluding the stocked coho fishery at the Eklutna Tailrace, from three to two coho salmon

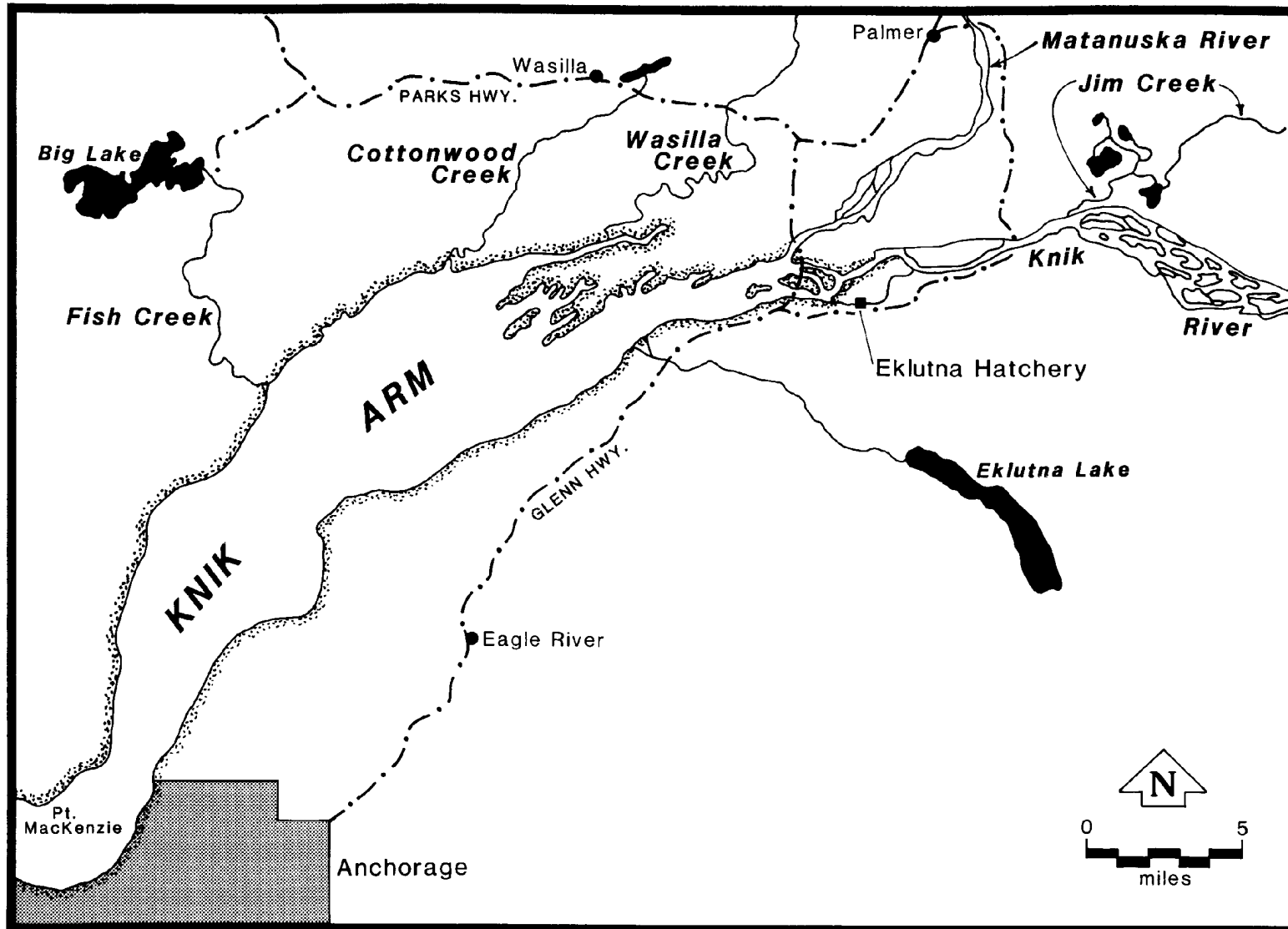


Figure 19.-The Knik Arm drainage.

Table 38.-Fishing effort and coho salmon harvest from Knik Arm fisheries as estimated by SWHS, 1977-2002.

Year	Wasilla Creek		Cottonwood Creek		Fish Creek		Eklutna Tailrace		Jim Creek ^b		Total	
	Harvest	Angler-days ^a	Harvest	Angler-days ^a	Harvest	Angler-days ^a	Harvest	Angler-days ^a	Harvest	Angler-days ^a	Harvest	Angler-days ^a
1977	472	2,805									472	2,805
1978	2,112	3,446									2,112	3,446
1979	1,211	4,024	1,198	5,345							2,409	9,369
1980	3,555	5,726	3,375	9,268							6,930	14,994
1981	814	4,019	1,373	8,663					1,801	4,904	3,988	17,586
1982	1,624	6,261	1,886	5,186					2,306	6,653	5,816	18,100
1983	345	3,239	518	5,944					774	9,183	1,637	18,366
1984	1,920	3,547	1,895	7,144			561	3,413	3,429	9,369	7,805	23,473
1985	1,900	3,115	1,005	4,560	284	903	557	2,995	2,523	8,970	6,269	20,543
1986	944	3,387	690	5,653	364	2,641	502	8,549	2,948	13,015	5,448	33,245
1987	1,195	2,173	1,159	2,934	833	2,898	2,318	11,663	3,676	6,990	9,181	26,658
1988	1,273	2,228	746	4,056	1,637	3,110	3,329	13,188	11,078	23,229	18,063	45,811
1989	975	2,406	876	3,069	784	3,314	1,666	10,342	4,220	11,141	8,521	30,272
1990	1,012	2,679	286	3,056	398	3,936	1,012	7,618	6,184	17,878	8,892	35,167
1991	844	2,893	176	1,623	486	3,693	631	5,892	2,920	13,736	5,057	27,837
1992	413	1,110	348	1,974	526	3,638	664	4,279	3,409	8,856	5,360	19,857
1993	1,133	1,774	736	3,077	741	2,341	1,337	4,523	2,878	6,824	6,825	18,539
1994	1,390	2,226	1,100	3,230	492	2,358	3,553	8,974	3,946	9,658	10,481	26,446
1995	445	1,373	340	2,598	435	2,256	990	11,453	3,549	10,893	5,759	28,573
1996	872	1,386	762	1,783	607	934	1,217	6,448	3,911	7,561	7,369	18,112
1997	708	1,188	372	2,070	148	1,104	728	3,835	1,786	5,349	3,742	13,546
1998	970	1,171	1,098	3,454	1,334	2,256	1,422	5,100	4,197	5,272	9,021	17,253
1999	313	990	537	3,506	233	2,182	1,453	6,150	2,612	6,860	5,148	19,688
2000	0	328	282	1,265	470	1,408	5,053	7,938	5,653	10,975	11,458	21,914
2001	0	419	851	2,627	753	1,670	4,497	10,166	11,723	13,028	17,824	27,910
Mean	1,058	2,557	940	4,004	619	2,391	1,749	7,363	4,073	10,016	7,023	21,580
97-01												
Mean	398	819	628	2,584	588	1,724	2,631	6,638	5,194	8,297	9,439	20,062
2002	664	1,037	561	1,534	1,233	2,776	7,073	11,767	14,707	17,989	24,238	35,103

^a Participation includes effort directed at species other than coho salmon.

^b Knik River and tributaries including Jim Creek.

16 inches or more in length. Additionally, Wasilla Creek, McRoberts Creek, upper Jim Creek, and Jim Lake were closed year-round to salmon fishing. The collective annual harvest for these five fisheries averaged 9,439 coho salmon during the period 1997 through 2001 (Howe et al. 2001a-d Walker et al. 2003 and Jennings et al. *In prep a*) (Table 38). Jim Creek averaged 4,073 coho salmon harvested during this period, whereas the three weekend-only fisheries of Fish, Cottonwood, and Wasilla creeks averaged 588, 628 and 398 fish, respectively.

Coho salmon have been periodically stocked into Knik Management Unit systems (Table 39). Stocking of Fish and Cottonwood creeks was initiated during the late 1970s, Eklutna Tailrace in 1981, and Jim and Wasilla creeks in the late 1980s. This stocking effort was made up of a combination of fingerling and smolt releases produced by the ADF&G Big Lake Hatchery, Elmendorf Hatchery and Fort Richardson Hatchery, and by CIAA's Eklutna Hatchery (Table 39). CIAA collected eggs and reared coho salmon at its Eklutna Hatchery until it suspended operation in 1998. Contribution of hatchery fish to the catch and harvest in these recreational fisheries was not evaluated.

Knik Arm coho salmon are harvested commercially in the Central and Northern Districts of Cook Inlet (Appendices B1-B7 and B9). The stocks are also harvested within Knik Arm by a set gillnet fishery that operates near the mouth of Fish Creek. The Knik Arm commercial set gillnet fishery was conducted annually from 1987-1998 and coho salmon harvests ranged from 85 to 11,604, averaging 2,913 annually during this period (Table 40). BOF action closed the Knik Arm commercial set gillnet fishery beginning in 1999 to allow more coho and sockeye salmon escapement into Knik Arm streams.

Recent Fishery Performance

Due to poor returns of coho salmon to the Knik Arm Management Unit (KAMU) in 1997 and 1999, the BOF imposed fishing time restrictions on Saturday and Sunday-only fisheries in February 1999 and enacted the Cook Inlet Coho Salmon Conservation Management Plan in February 2000 (Appendix F1). As part of this plan Wasilla Creek was closed year-round to salmon fishing in 2000 and remained closed through 2001. Strong returns in 2000 and 2001 prompted the BOF to reopen the Wasilla Creek fishery for 2002.

Even with increased restrictions, harvests were substantially increased in 2002. The recreational harvest of coho salmon in Knik Arm streams for 2002 totaled 24,238 (Table 38). An increase in participation, 35,103 angler-days in 2002, combined with increasing returns (Table 35) were responsible for this large harvest. The Fish Creek personal use fishery was closed during the 2002 season (Table 40).

Fish, Cottonwood, and Wasilla creeks have a very limited open season, which generates little angler effort; consequently, limited inseason catch information is available. Weirs operated on Fish, Cottonwood and Wasilla creeks in 2003 confirmed that the runs to these systems were weak. Fish and Cottonwood Creek escapements were near the low end of their SEG ranges (Table 35). Anglers reported good catches at Jim Creek, the second most popular sport fishery in the KAMU. The postseason escapement survey counted 1,421 coho exceeding the SEG range of 450-700 fish. Eklutna Tailrace, a hatchery fishery, had an average run as reported by anglers and supported by an onsite inspection by area staff. Brood stock collection for the Eklutna Tailrace stocking program was successfully completed.

Table 39.-Summary of coho salmon stocked in Cottonwood, Wasilla, Jim, and Fish creeks and the Eklutna tailrace, 1977-2003.

Brood Year	Brood Stock	Release		Average	Number	Number
		Year	Drainage	Size (g)	Released	Marked
Big Lake Hatchery						
1977	Big Lake	1978	Cottonwood Creek	0.80	317,694	32,064
1978	Big Lake	1979	Cottonwood Creek	0.54	246,762	19,992
1979	Big Lake	1980	Cottonwood Creek	0.63	154,991	15,000
1979	Big Lake	1980	Cottonwood Creek	0.49	155,004	15,000
1980	Big Lake	1981	Cottonwood Creek	0.59	299,742	30,528
1981	Big Lake	1982	Cottonwood Creek	0.45	364,911	89,389
1982	Cottonwood Lk & Big Lake	1983	Cottonwood Creek	0.45	368,022	23,465
1983	Cottonwood Lk Big Lake	1984	Cottonwood Creek	0.91	372,318	10,373
1984	Cottonwood Lk & Big Lake	1985	Cottonwood Creek	0.30	317,000	10,000
1985	Big Lake	1986	Cottonwood Creek	0.85	315,881	13,092
1986	Big Lake	1987	Cottonwood Creek	1.4	315,916	15,600
1987	Big Lake	1988	Cottonwood Creek	1.1	597,000	0
1987	Big Lake	1989	Cottonwood Creek	16.4	16,900	0
1989	Big Lake	1990	Cottonwood Creek	1.1	202,000	0
1989	Big Lake	1991	Cottonwood Creek	25.3	72,000	0
1990	Big Lake	1992	Cottonwood Creek	11.0	53,900	35,341
1991	Big Lake	1993	Cottonwood Creek	12.1	74,198	40,875
1986	Big Lake	1988	Wasilla Creek	17.0	12,850	0
1987	Big Lake	1989	Wasilla Creek	15.7	21,600	0
1989	Big Lake	1990	Wasilla Creek	1.1	152,000	0
1989	Big Lake	1991	Wasilla Creek	25.0	69,500	0
1990	Big Lake	1992	Wasilla Creek	10.9	76,315	44,148
1991	Big Lake	1993	Wasilla Creek	11.4	77,174	41,711
1986	Big Lake	1988	Jim Creek	17.0	7,550	0
1987	Big Lake	1989	Jim Creek	16.4	20,100	0
1989	Big Lake	1990	Jim Creek	1.1	163,000	0
1976	Big Lake	1977	Fish Creek	0.28	40,673	0
1977	Big Lake	1978	Fish Creek	0.70	101,081	40,959
1978	Big Lake	1979	Fish Creek	0.49	383,295	30,218
1979	Big Lake	1980	Fish Creek	0.58	450,827	22,337
1980	Big Lake	1981	Fish Creek	0.64	118,071	13,072
1981	Big Lake	1982	Fish Creek	0.45	596,975	23,735
1982	Big Lake	1983	Fish Creek	0.45	1,379,179	24,329
1983	Big Lake	1984	Fish Creek	0.76	987,166	11,166

-continued-

Table 39.-Page 2 of 2.

Brood Year	Brood Stock	Release		Average Size (g)	Number Released	Number Marked
		Year	Drainage			
1984	Big Lake	1985	Fish Creek	0.30	1,641,600	10,000
1985	Big Lake	1986	Fish Creek	1.0	2,354,725	13,497
1986	Big Lake	1987	Fish Creek	1.2	1,906,945	15,632
1986	Big Lake	1987	Fish Creek	7.8	445,310	20,010
1986	Big Lake	1988	Fish Creek	17.0	20,400	20,400
1987	Big Lake	1988	Fish Creek	1.2	1,562,850	14,050
1987	Big Lake	1988	Fish Creek	7.6	366,226	21,384
1987	Big Lake	1989	Fish Creek	15.7	10,644	9,644
1988	Big Lake	1990	Fish Creek	19.0	21,671	5,671
1989	Big Lake	1990	Fish Creek	1.2	504,077	20,077
1989	Big Lake	1991	Fish Creek	25.3	82,988	9,488
1990	Big Lake	1992	Fish Creek	10.9	74,953	45,538
1991	Big Lake	1993	Fish Creek	10.8	67,934	43,257
Eklutna Hatchery						
1981	Cottonwood Lk & Big Lake	1983	Tailrace	15.4	633 ^a	452
1982	Cottonwood Lk & Big Lake	1984	Cottonwood Creek	18.7	16,244	15,757
1982	Cottonwood Lk & Big Lake	1984	Tailrace	18.7	28,150 ^a	27,306
1984	Cottonwood Lk & Big Lake	1986	Tailrace	22.0	101,326	101,326
1985	Eklutna	1987	Tailrace	25.0	147,715	14,772
1986	Eklutna	1988	Tailrace	16.0	72,881	7,300
1987	Eklutna	1988	Jim Creek	1.4	68,000	0
1987	Eklutna	1989	Tailrace	19.0	50,787	2,052
1988	Eklutna	1990	Tailrace	21.6	54,278	2,916
1989	Eklutna	1991	Tailrace	22.0	21,285	1,381
1990	Eklutna	1992	Tailrace	16.7	131,829	0
1991	Eklutna	1993	Tailrace	15.9	108,000	0
1992	Eklutna	1994	Tailrace	11.5	62,400	0
1993	Eklutna	1995	Tailrace	16.9	69,867	0
1994	Eklutna	1996	Tailrace	14.5	69,176	0
1995	Eklutna	1997	Tailrace	14.5	69,475	0
1996	Eklutna	1998	Tailrace	no data	105,000	0
Elmendorf Hatchery						
1994	Little Susitna R. Fort Richardson Hatchery	1996	Wasilla Creek	20.9	145,923	46,839
1996	Jim Creek	1998	Eklutna Tailrace	17.9	112,219	111,882
1997	Jim Creek	1999	Eklutna Tailrace	16.6	126,602	42,663
1998	Jim Creek	2000	Eklutna Tailrace	19.7	76,851	40,514
1999	Eklutna	2001	Eklutna Tailrace	22.8	124,838	43,713
2000	Eklutna	2002	Eklutna Tailrace	18.7	120,629	44,518
2001	Eklutna	2003	Eklutna Tailrace	19.5	120,736	120,736 ^b

^a Some fingerlings escaped into tailrace due to vandalism.

^b Otolith mark, no clip.

Table 40.-Fish Creek salmon harvests, by commercial set gillnet and personal use dip net, 1987-2003.

Year	Commercial Gillnet ^a						Personal Use Dip Net					
	Sockeye	Coho	Chum	Pink	Chinook	Total	Sockeye	Coho	Chum	Pink	Chinook	Total
1987	24,090	2,043	403	264	^b	26,800	2,200					2,200
1988	38,251	11,604	325	591	9	50,780	3,000					3,000
1989	47,925	6,075	4,979	545	4	59,528	5,000					5,000
1990	23,450	5,708	5,308	696	4	35,166	6,500					6,500
1991	10,459	1,630	961	21	^b	13,071	14,369		549	567		15,485
1992	10,748	1,817	1,289	573	^b	14,427	19,002		607	678		20,287
1993	47,751	831	990	29	^b	49,601	37,224	973	503	2,068		40,768
1994	7,528	809	357	141	0	8,835	16,012	1,336	248	632		18,228
1995	19,477	1,999	1,018	72	5	22,571	9,102	2,640	99	290		12,131
1996	35,245	1,802	448	25	0	37,520	17,260	2,414	153	331	37	20,195
1997	13,791	85	31	1	1	13,909	3,277	63	4	53	0	3,397
1998	2,597	548	105	0	0	3,250	4,036	649	29	80	1	4,795
1999	No fishery						1,083	17	0	12	0	1,112
2000	No fishery						6,925	958	29	83	0	7,995
2001	No fishery						463	13	1	4	1	482
2002	No fishery						No fishery					
2003	No fishery						No fishery					
Mean	23,443	2,913	1,351	247	3	27,955	9,697	1,131	222	479	8	10,772

Source: Personal Use 1987-1995 Mills 1988-1994, Howe et al. 1996; 1996-2001 are estimates from returned permits.

^a Harvest from statistical area 247-50. Ruesch et al. 1987, Ruesch and Browning 1989, Ruesch 1990 and 1991, Ruesch and Fox 1992, 1994-1999, Fox and Ruesch 1992, Fox and Shields 2000, 2001.

^b Not reported.

Table 41.-Coho salmon sustainable escapement goals (SEG) for Knik Arm Management Unit streams.

Stream	Sustainable Escapement Goal (SEG)
Cottonwood Creek (weir)	800-2,200
Wasilla Creek (weir)	No goal
Fish Creek (weir)	1,200-4,400
Jim Creek Drainage (foot survey)	450-700
Little Susitna River (weir)	10,100-17,700

Note: Originally set as Biological Escapement Goals (BEG) then converted to SEG in 2002.

Management Objectives

Biological escapement goals set in 1994 were reevaluated in 2002. SEGs were established for Fish, Cottonwood, and Jim creeks (Table 41). The BEG for Wasilla Creek was dropped in 2002 because of a lack of historical escapement data. The Jim Creek SEG is based on historic escapement index counts while the Fish and Cottonwood creeks goals are based on average coho salmon weir counts through 2000. The management objective for these four systems is to achieve the escapement goal while providing a maximum level of sustained coho salmon fishing opportunity.

Recent Board of Fisheries Actions

Regulations affecting the Knik Arm Management Unit adopted by the BOF during the February 2002 meeting were:

1. Open Fish Creek personal use fishery by EO when escapement goal is projected.
2. Open Wasilla Creek from its mouth to the Alaska Railroad (ARR) bridge for salmon fishing (excluding king salmon), Saturday and Sunday only from 6:00 a.m.–6:00 p.m. only.

Current Issues

Urbanization is a concern with Knik Arm stocks. Spawning streams which support fisheries in the Knik Arm Management Unit, excluding the Little Susitna River, are small in size and have easy public access. Several of the streams flow through residential areas and habitat degradation to these streams and spawning areas is evident. Additionally, available information and enforcement action suggests that a substantial amount of salmon poaching occurs in these drainages. The need to address these fishing infractions and habitat violations is ongoing.

Ongoing Research and Management

The Fish Creek weir was operated through the end of September to evaluate the coho salmon return in 1998-2003. Ground surveys were conducted annually within established index areas in Wasilla, Cottonwood and Jim creeks (Table 35). In addition, during 1997-2003, weirs were operated on

Cottonwood Creek and Wasilla Creek to evaluate the total return of coho salmon. Daily weir passage is documented in Appendix H.

A 5-year project to coded wire tag wild coho salmon smolts in Cottonwood Creek was initiated in 1999 to estimate smolt abundance and harvest by commercial fisheries in Upper Cook Inlet. Returning coho salmon are inspected for fin clips in the commercial and sport fisheries of Cook Inlet and in the spawning escapement in Cottonwood Creek. So far, analysis of CWT data from smolt years 1999 and 2000 combined with sport harvest estimates and escapement counts have provided estimates of harvest by various commercial fisheries, total returns, smolt abundances, and marine survival rates. Furthermore, the project has given us insight into freshwater productivity for this system. An understanding of marine survival rate and exploitation rate in the sport and commercial fisheries will help to determine appropriate escapement levels and ensure sustainable coho salmon yields in the future. Currently the Cottonwood Creek coho salmon stock is one of two tagged wild coho stocks in Cook Inlet, along with tagged hatchery releases. Data through 2002 indicate exploitation rates and marine interception locations and timing are similar between wild Cottonwood Creek and hatchery reared coho salmon (Namtvedt et al. *In prep*).

Coho returning to the Eklutna Tailrace are used as brood stock for the Eklutna Tailrace fishery (Table 39). Fish are collected by seine and transported to the Elmendorf Hatchery for egg take then the eggs are taken to Fort Richardson hatchery for development. They are released as smolt into the Eklutna Tailrace.

Recommended Research and Management Activities

The index counts of coho salmon in Knik Arm streams should continue. It has become evident they don't provide escapement data useful for measuring attainment of escapement goals but they do provide managers with an indication of the health of the stream. These streams flow through heavily populated areas making them prime targets for habitat degradation and poaching problems. The presence of department personnel walking these waters helps keep these problems in check.

In 2004 weirs will not be maintained on Wasilla and Fish creeks to evaluate total returns of coho salmon. Past weir counts have shown that the Little Susitna River weir can be used as an indicator of run strength for Wasilla and Fish creeks. The coded wire tagging of coho in Cottonwood Creek will be stopped and the project will be reduced to an adult weir.

The Eklutna Tailrace should be stocked at increased levels to provide anglers additional coho salmon fishing opportunity. Stocking should be limited to sites such as the Eklutna Tailrace; e.g. sites without wild coho salmon stocks present. Eggs will continue to be collected from the coho returning to the tailrace and reared at Fort Richardson Hatchery.

Several fishery access projects should be implemented in the Knik Management Unit. Current projects are discussed in detail in the Fisheries Access Improvements section of this report. The Eklutna tailrace fishery site will be enhanced in consideration of increasing the number of coho salmon stocked at this site in addition to the chinook salmon release already discussed. Vehicle parking should be expanded, a vault toilet should be constructed, and stream bank stabilization should be designed. Land (Cope Property) is being acquired adjacent to Rabbit Slough on Wasilla Creek to assure access and maintenance of coho salmon rearing habitat. Additionally, a Knik River boat launch should be

constructed to provide boating access to Knik River tributary streams. Purchase of the Cope Property and development of the Knik River boat launch will be conducted in conjunction with the Wildlife Conservation Division of the Department of Fish and Game. In addition to providing fishery access and coho salmon rearing habitat, development of these two sites will greatly enhance hunting and wildlife viewing opportunities.

Eastside Susitna, Westside Susitna, and West Cook Inlet Management Units Coho Salmon Fisheries

Fishery Description and Historical Perspective

Coho salmon harvests in the Eastside and Westside Susitna and West Cook Inlet management units averaged 24,208, 16,167 and 9,930 fish, respectively, during 1997 through 2001 (Howe et al. 2001 b-d, Walker et al. 2003 and Jennings et al. *In prep a*) (Table 33). The Susitna River drainage supports the largest coho salmon stock within the NCIMA and the entire Upper Cook Inlet area. The contribution of the harvest from the Eastside Susitna and Westside Susitna Management Units was 55% of the total NCIMA coho salmon harvest during 1997-2001. The West Cook Inlet Management Unit contribution to the total NCIMA was 14% during this time period.

A description of these management units, including access to these areas, is presented in the chinook salmon section of this report. Coho salmon returning to these units are early-run stocks, which begin to enter these drainages about mid-July. The migration into the Yentna River drainage (Susitna River Mile 28, Westside Susitna Management Unit) normally peaks the last week in July, whereas the peak passage into the Talkeetna River (Susitna River Mile 99, Eastside Susitna Management Unit) takes place 7 to 10 days later. Few coho salmon enter the Susitna River after early September. Most spawning occurs between mid-September and mid-October. Little information is available regarding West Cook Inlet Management Unit coho salmon run timing; however, it is assumed to be similar to that of the Susitna River.

Total coho salmon abundance in the Susitna River drainage has not been estimated. Abundance in portions of this vast drainage has been measured by sonar, fish wheel, weir, and mark-and-recapture methods. During the period 1981 through 1983, coho salmon abundance was estimated to average 47,000 fish in the Susitna River excluding all systems below River Mile 80 (Table 42). It is important to recognize that significant coho salmon returns occur in tributaries that enter the Susitna River downstream from River Mile 80. Coho salmon abundance in such systems as the Dëshka River, Alexander Creek, and Willow Creek, as well as many other important coho salmon sport fisheries, was not measured during the 1981-1983 studies.

Side-scan sonar and fish wheels have estimated coho salmon abundance in the Yentna River since 1981 (Davis 2000). Estimates made during 1981-1984 and 1997-2000 encompassed the entire coho salmon migration. From 1985 to 1996 the sonar program was terminated prior to the end of the coho salmon return. Yentna River sonar enumeration of coho salmon entering the Yentna River drainage ranged from 6,279 to 75,090 fish during 1981 to 2003 (Table 42). The number of coho salmon passing River Mile 80 on the Susitna River exceeded the number of coho salmon entering the Yentna River each year during the period 1981 to 1983. Side-scan sonar to enumerate salmon, and fish wheels to apportion sonar counts by species, may not be adequate tools to estimate abundance of coho salmon. Coho salmon only make up a small portion of the fish wheel catch and any error in species

Table 42.-Eastside and westside Susitna River drainage coho salmon escapement index counts, 1981-2003.

Year	Westside Susitna River Drainage				Eastside Susitna River Drainage ^a				Susitna River ^d	Grand Total
	Yentna River ^b	Deshka River ^c	Rabideux Creek	Total	Birch Creek	Question Creek	Answer Creek	Total		
1981	17,017		^e	17,017	^e	^e	^e	^e	37,000	54,017
1982	34,089		^e	34,089	^e	^e	^e	^e	80,000	114,089
1983	8,867		^e	8,867	^e	^e	^e	^e	24,000	32,867
1984	18,172		480	18,652	236	60	57	353	^e	19,005
1985	9,181		82	9,263	30	89	9	128	^e	9,391
1986	23,457		^e	23,457	25	^e	^e	25	^e	23,482
1987	6,279		50 ^f	6,329	46	149	10	205	^e	6,534
1988	12,173		230	12,403	63	337	160	560	^e	12,963
1989	25,695		20	25,715	180	31	66	277	^e	25,992
1990	21,346		20	21,366	36	41	6	83	^e	21,449
1991	57,275		185	57,460	300	492	51	843	^e	58,303
1992	29,073		^e	29,073	167	227	181	575	^e	29,648
1993	37,752		^e	37,752	178	370	34	582	^e	38,334
1994	25,173		105	25,278	224	339	0 ^g	563	^e	25,841
1995	74,406	12,824	39	87,269	127	155	35	317	^e	87,586
1996	34,420		^e	34,420	458	238	43	739	^e	35,159
1997	13,670	8,063	114	21,847	217	186	57	460	^e	22,307
1998	24,769	6,773	56	31,598	356	519	45	920	^e	32,518
1999	37,933	4,563	169	42,665	153	128	470	751	^e	43,416
2000	40,921	26,387	354	67,662	809	1,040	899	2,748	^e	70,410
2001	47,077	29,927	656	77,660	1,470	450	371	2,291	^e	79,951
2002	75,090	24,612	^e	99,702	1,158	1,010	249	2,417	^e	102,119
2003	45,222	17,305	344	62,871	^e	407	131	538	^e	63,409
Mean	31,263	16,307	194	37,062	328	330	151	769	47,000	43,860

^a Survey conducted by walking portions of the creek.

^b Sonar counts, dates of assessment vary; estimates for 1981-1984 encompass the entire coho salmon migration.

^c Weir count. 1995 RM 17, 1997-2003 RM 7: 1998 and 1999 weirs were underwater for an extended time during coho season resulting in an incomplete count.

^d Sonar counts upstream of River Mile 80.

^e No survey conducted.

^f Poor survey conditions.

^g Beaver dam downstream of index area blocking passage of fish.

apportionment of the sonar count using the fish wheel catch may result in a large error in the coho salmon estimate. Additionally, coho salmon may be distributed across the entire river while the sonar only counts fish swimming along riverbanks.

Very little information is available regarding coho salmon abundance in the West Cook Inlet Management Unit. The department during recent years has collected no coho salmon escapement information. The Chuit and Theodore rivers provide the major fisheries north of the West Foreland with the Kustatan River and Polly Creek the major fishery sites south of the West Foreland.

The Deshka River, Alexander Creek and Lake Creek are the major Westside Susitna Management Unit coho salmon fisheries. Coho salmon harvest from these three streams averaged 4,815, 1,710 and 4,927 fish, respectively, during the period of 1997 to 2001. This harvest accounted for 71% of the Westside Susitna Management Unit coho salmon harvest during this time period (Appendix A16). Beginning in 1996 a fish wheel fishery has been operated on the Yentna River below the Skwentna River resulting in harvests of less than 150 coho salmon each year. This fishery originated as a personal use fishery then was reinstituted as a subsistence fishery in 1998.

Coho salmon were counted through a weir at approximately River Mile 17 on the Deshka River during 1995 and 1996. During 1996 the weir was operational only through July 30, after which high water made counting fish impossible. In 1997 the weir was moved downstream to River Mile 7 to enumerate a larger portion of the escapement and allow weir crews easier access. The weir continues to be constructed at this site annually.

All the Eastside Susitna Management Unit tributaries provide fishing opportunities for coho salmon. During recent years Willow Creek and the Talkeetna River have produced the largest coho salmon harvests in this management unit, averaging 5,768 and 5,373 fish, respectively, during 1997 through 2001, accounting for approximately 46% of the Eastside Susitna harvest (Appendix A14).

The Kustatan River is the primary producer of coho salmon in the West Cook Inlet management unit (Table 43). The average harvest in this stream between 1997 and 2001 was estimated at 4,280 fish, accounting for approximately 43% of the harvest within this management unit (Appendix A18). A second major coho producer is the Chuitna River, with an average 1997-2001 harvest of 2,055 coho (Appendix A18).

Coho salmon sport fishing is permitted throughout the year at most sites in the Eastside and Westside Susitna River and Knik Arm units. However, portions of several Eastside Susitna Management Unit fisheries are closed to salmon fishing to protect spawning fish. Closures usually include upper reaches of tributaries that are road accessible. In the West Cook Inlet Unit all flowing waters are closed to salmon fishing October 1-December 31.

Flowing waters of major tributaries, or portions of tributaries, within the Susitna River drainage are restricted to unbaited, single-hook artificial lures throughout the year. These regulations are implemented as part of special management regulations for rainbow trout under the Cook Inlet and Copper River Basin Rainbow/Steelhead Trout Management Policy. Under this policy, only unbaited artificial lures may be used from September 1 through May 15 in all flowing waters of the Susitna River drainage. Additionally, bait is prohibited from May 15 through July 13 in waters open to chinook salmon fishing. Exceptions have been made for fishing for burbot when legal burbot fishing gear is used.

Table 43.-Harvest and effort for the Kustatan River coho salmon sport fishery, 1984-2002.

Year	Harvest	Catch	Effort Angler- days ^a
1984	1,646		1,673
1985	4,889		4,335
1986	3,239		2,737
1987	5,723		3,622
1988	6,221		3,674
1989	5,413		3,522
1990	4,584		3,724
1991	5,768		6,674
1992	4,494	6,227	4,150
1993	6,457	11,136	5,403
1994	5,259	6,611	3,972
1995	4,237	6,237	3,684
1996	6,266	10,600	2,699
1997	3,605	6,750	2,684
1998	3,999	6,369	2,749
1999	3,178	3,908	3,234
2000	5,699	9,725	4,393
2001	4,920	8,353	3,336
2002	5,795	11,463	5,254
Mean	4,810	7,944	3,764

^a Effort directed toward all species.

In the Eastside Susitna Management Unit, the bag and possession limit for coho salmon was three fish 16 inches or more in length until 2000 at which time it was reduced to two. In the Westside Susitna Unit and West Cook Inlet Units north of the West Foreland, the bag and possession limits were three coho salmon daily and six in possession until 2000 when they were reduced to two per day and four in possession. South of the West Foreland the limit remains at three per day and six in possession. The reductions in 2000 were instituted to address conservation concerns.

Susitna River coho salmon are harvested in commercial fisheries located in the Northern and Central Districts of Cook Inlet. In the Northern District, commercial fishing is not permitted within 500 yards of the terminus of the Susitna River and several of the West Cook Inlet Management Unit streams. Commercial fishing is not permitted within 1 statute mile of the terminus of several other West Cook Inlet Management Unit streams including Threemile Creek, Chuitna River, Nikolai Creek and the McArthur River. Significant numbers of Susitna River and West Cook Inlet drainage coho salmon are harvested in the mixed-stock driftnet fisheries, which occur in the Central District during July and early August (Appendix B3).

Recent Fishery Performance

The 2002 recreational coho salmon harvest from the Eastside Susitna, Westside Susitna and West Cook Inlet units was estimated at 27,183, 14,144 and 13,380 fish, respectively (Table 33). In 2002 coho fishing was excellent and the estimated harvest for each of these units was well above their respective 1997-2001 mean.

During the 2003 season catch information received from recreational anglers and guides for the Westside Susitna Unit indicated an average return of coho salmon. Average catches were reported for most of the major tributaries including Alexander and Lake creeks and the Dëshka and Talachulitna rivers. The final weir count for the Dëshka River reached 17,305 (Table 42). Sonar enumeration of coho salmon at River Mile 4 of the Yentna River estimated a return of 45,222 coho salmon to the Yentna River drainage in 2003, 145% of the mean count from 1981 to 2003 (Table 42). However, the count is only partial as the sonar station was closed down after August 16. Also, as stated earlier it is unknown if this is an accurate representation of the coho escapement as there are questions about the migration pattern of coho within the river. During the 2003 Skwentna River (upper Yentna) Subsistence Fish Wheel fishery, 76 coho salmon were harvested (Table 22).

There are no departmental programs currently available to monitor inseason returns of coho salmon to Eastside Susitna streams; however, catch information from fishermen and guides combined with periodic spot checks of the sport fishery by area staff indicated a low average return to Eastside Susitna Unit streams in 2003. The department conducted escapement surveys to index spawning numbers of coho salmon on two area streams, both of which supported average returns relative to previous years (Table 42).

Currently there are no departmental programs available to monitor inseason runs of coho salmon to West Cook Inlet streams. However, inseason catch information received in 2003 from recreational anglers and guides indicated an average return.

Recent Board of Fisheries Actions

The BOF met out of cycle in February of 2000 to address a coho salmon conservation concern. During this meeting several restrictions were imposed on commercial and sport fisheries to reduce coho salmon harvests beginning in 2000. In the Eastside Susitna Unit the daily bag and possession limits were reduced from three coho salmon to two. In the Westside Susitna Unit and West Cook Inlet Unit from the Susitna River south to the West Foreland, the bag and possession limits were reduced from three per day and six in possession to two per day and four in possession. West Cook Inlet Unit streams south of the West Foreland retained their bag limit of three per day and six in possession.

No action was taken during the February 2002 BOF meeting affecting these fisheries.

The next BOF meeting regarding coho salmon issues is scheduled for February 2005.

Current Issues

Allocation of coho salmon between commercial and recreational fisheries remains a controversial issue. The popularity of these fisheries has increased and managers' lack of information regarding stock status makes management decisions difficult.

In the Eastside and Westside Susitna Management Units, four small Susitna River tributaries continue to be included in the annual coho salmon escapement indices. These are Question, Answer, Birch and Rabideux creeks (Table 42). These coho salmon spawning streams enter the Susitna River drainage between River Mile 80 and 85. They are indexed because of their accessibility from the road system. The escapement to these small streams is small and fish are often blocked from reaching the index area by beaver dams. It is unknown if an absence or abundance of spawning fish in these streams is due to downstream conditions or is a reflection of abundance trends in the Susitna River drainage.

Returns of coho salmon to upper Alexander Creek have not materialized in recent years in anywhere near the numbers expected considering the size of the return to the lower portion of the creek. Speculation suggests that high northern pike concentrations in the Sucker Creek drainage and the upper portion of Alexander Creek have had a negative impact on juvenile coho salmon production.

Issues relating to large-scale timber development, recreational river management, and road and boat launch construction are of importance in developing future use and management strategies for coho salmon in these management units.

Ongoing Research and Management

The Division of Commercial Fisheries performs sonar and fish wheel enumeration of Yentna River coho salmon; however, this enumeration project is directed primarily toward sockeye salmon and it is unknown exactly what portion of the coho return the sonar counts represent.

Coho salmon are counted through a weir at River Mile 7 on the Deshka River and by foot survey in four Susitna River tributaries between River Mile 80 and 85.

The Susitna River coho salmon sport harvest and catch is estimated annually by the SWHS. Effort is not estimated specific to a species but across all species for a drainage or group of drainages.

Recommended Research and Management Activities

Methods should be established to estimate returns of spawning coho salmon to the Susitna River. Coho salmon stocks of concern are both Westside Susitna River drainages and road-accessible Eastside Susitna Management Unit streams including Willow, Sheep, Montana, and Birch creeks and the Kashwitna River. Fisheries in these streams have become considerably more popular in recent years as the adjacent population continues to increase (Appendix A14). We don't know if an absence or low numbers of spawning coho salmon indexed in small road-accessible Susitna River tributaries reflects instream problems such as blockage by beaver dams or overall low numbers returning to the drainage. Because of this uncertainty, it is important that projects that give a more complete picture of coho salmon abundance in the Susitna River drainage, such as the Deshka River weir, be maintained.

The Deshka River weir, which has been operated annually since 1995, will continue operation in 2004 at RM 7. Sport harvest estimates of coho salmon will be taken from the SWHS.

The sport harvest of West Cook Inlet coho salmon is expected to increase and the department has virtually no biological information regarding the stock status. Although increasing harvest is not presently assumed to be a conservation issue, this assumption is not fact. A cost-effective program to assess the status of coho salmon in West Cook Inlet streams is needed.

An investigation of Alexander Creek in the Westside Susitna Management Unit should be conducted to determine the reason for low coho salmon return to the upper portion of the creek in recent years. Constructing a weir in Sucker Creek (a tributary of Alexander Creek) would provide information about the coho population.

Additionally, it should be determined if projects such as the Yentna River sonar, operated by the Commercial Fisheries Division (CFD), could be used to accurately estimate the escapement of coho salmon.

Currently we believe that wild coho salmon are exploited at the same rate as NCI hatchery-released coho salmon. Implementing a wild coho salmon smolt marking program could test this assumption. Tag recoveries could be made in the Cook Inlet commercial and recreational fisheries.

Access development, acquisition, and maintenance programs for these areas are discussed under the Chinook Salmon Fisheries section of this report.

SOCKEYE SALMON FISHERIES

Background and Historical Perspective

Recreational harvests of sockeye salmon in the NCIMA ranged from 3,140 to 23,235 fish during 1977-2001 and averaged 12,920 fish (Mills 1979-1994, Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003 and Jennings et al. *In prep* a) (Table 7). Within the NCIMA, the Knik and Eastside Susitna management units historically account for the majority of the harvest of sockeye salmon. The West Cook Inlet Management Unit, with fewer accessible streams, places last in average harvest. The Little Susitna River, Knik River and Cottonwood Creek have dominated Knik Management Unit harvests while Eastside Susitna River Unit harvests have been predominately from the Talkeetna River, specifically Larson Creek. Lake Creek is by far the major contributor to the Westside Susitna River harvests and West Cook Inlet Unit's harvest is predominately from the Wolverine Creek in the Big River Lakes drainage (Appendices A21-A28).

Fish Creek (Knik Arm) sockeye salmon have long been used in commercial and subsistence fisheries (Engel and Vincent-Lang 1992). The Knik Arm subsistence fishery was operational through 1970. In 1971 it was closed because of declining sockeye salmon escapements into Fish Creek. It reopened in 1984 and 1985 then closed again in 1986. The Fish Creek commercial set gillnet and personal use dip net (Table 40) fisheries along the northwest shore of Knik Arm were initiated by the Board of Fisheries in 1986 to use sockeye salmon surplus to spawning and egg take needs. The dip net fishery was initially established to open July 30, but several changes have occurred in subsequent BOF meetings. Most recently the Fish Creek dip net fishery was modified under the Upper Cook Inlet Salmon Fisheries Management Plan and currently opens by EO when it is projected that Fish Creek will reach its escapement goal. The commercial gillnet fishery operated from 1987 through 1998. In 1999 the BOF

closed the commercial fishery because of poor sockeye returns to the Fish Creek system and in 2002 repealed the Fish Creek Sockeye Salmon Management Plan.

The Upper Cook Inlet Subsistence Management Plan provided for a subsistence set gillnet fishery in Northern Cook Inlet waters in 1991, 1992 and 1994 which targeted sockeye salmon (Table 23). The threat of a court-ordered closure of this subsistence fishery for the 1995 season caused the BOF to take action to allow the fishery to proceed as a personal use fishery (Table 23). The gillnet personal use fishery in marine waters in the Northern District of Upper Cook Inlet was eliminated prior to the 1996 season by BOF action.

The Board of Fisheries established the Skwentna Fish Wheel Personal Use fishery in March of 1996, which was reestablished as a subsistence fishery in 1998 (Table 22). Sockeye salmon dominate these harvests.

Sockeye salmon populations are present in numerous streams throughout the Knik Arm Unit, some of which have been surveyed sporadically during past years (Tables 44 and 45). Bodenburg Creek, a Knik River tributary, has been surveyed annually since 1968 (except for 1984) (Table 44).

The escapement of sockeye salmon into the Fish Creek drainage has been documented since 1936 (Chlupach and Kyle 1990). Recorded escapement of these late-run sockeye salmon ranged from 2,705 fish in 1973 to 307,000 fish in 1940. Since 1968 the escapement of sockeye salmon has ranged from the 1973 low of 2,705 fish to a 1984 high of 192,352 fish (Table 45, Figure 20). Due to declining abundance during the early 1970s, enhancement of Fish Creek sockeye salmon was initiated in 1975. The Big Lake state fish hatchery supported the sockeye salmon enhancement program through 1992 using Fish Creek stock as brood (Table 46). After the Big Lake hatchery closed in 1993, enhancement continued using Fish Creek stock as brood reared at the Eklutna fish hatchery, a private hatchery operated by Cook Inlet Aquaculture Association (CIAA), located on the Knik River in the Eklutna powerplant tailrace. The CIAA discontinued operation of the Eklutna Hatchery in 1998, at which time the program was switched to the Trail Lakes Hatchery, another CIAA facility. Current production goals are 9 million sockeye salmon eggs of Fish Creek brood, from which sockeye salmon fry are released annually into the Big Lake drainage. An additional 1.5 million fry were retained in 1997 for further rearing and released as smolt into the Eklutna tailrace. The CIAA stocking program at Eklutna tailrace was discontinued following the 1997 release.

Escapement of sockeye salmon to the Susitna River drainage has been documented annually since 1978 at the Yentna River sonar site operated by the Commercial Fisheries Division, and by CIAA weirs at Chelatna Lake (Lake Creek drainage) 1993-2000, Larson Lake (Talkeetna River drainage) in 1984-1987 and 1997-2000, and Hewitt Lake in 1990 (Table 45). Within the NCIMA, Commercial Fisheries Division has also operated a weir at Packers Creek on Kalgin Island and at Judd Lake.

Currently the recreational fishery for sockeye salmon in the Susitna River and Knik Arm drainages is mostly incidental to the harvest of other salmon. However, directed sockeye salmon fisheries occur in the Susitna River drainage at Larson Creek (Talkeetna River drainage), Lake Creek, Talachulitna River, at the mouth of Nancy Lake Creek in the Little Susitna River drainage and at Jim Creek.

Table 44.-Bodenburg Creek escapement index surveys, 1968-2003.

Date	Sockeye	Chum	Date	Sockeye	Chum
Aug 1968	350	0	9/3/1987	77	1
Sep 1969	125	0	8/8/1988	86	7
8/25/1970	83	0	8/31/1989	190	6
9/5/1971	110	0	9/7/1990	195	3
8/31/1972	464	0	8/27/1991	0	1
8/27/1973	208	0	9/6/1991	160	0
9/6/1974	169	0	8/29/1992	54	0
9/3/1975	148	0	9/2/1992	66	4
9/19/1975	0	3	8/24/1993	212	14
9/8/1976	111	0	8/25/1994	220	0
8/29/1977	178	0	9/6/1994	0	93
8/29/1978	541	0	8/28/1995	156	219
8/29/1979	321	0	9/4/1996	111	0
8/25/1980	483	0	8/28/1997	142	4
8/19/1981	260	0	8/21/1998	156	13
9/17/1982	722	0	8/30/1999	257	21
8/31/1983	359	0	8/28/2000	228	5
1984	No count		8/29/2001	232	8
9/5/1985	232	0	8/30/2002	320	25
9/4/1986	119	120	8/22/2003	402	3
			Mean	211	14

Recent Fishery Performance

The 2002 sport harvest of sockeye salmon in the Knik Management Unit totaled 4,619 fish (Table 8). The majority of the harvest occurred in the Little Susitna River (Appendix A21). Harvests from Eastside and Westside Susitna River and West Cook Inlet units totaled 3,427, 1,881 and 2,019 fish, respectively (Tables 9, 10 and 11). All units fell below their 1997-2001 mean.

Three Knik Arm drainage weirs that count sockeye salmon are presently in place. In 2003 the Fish Creek weir counted a return of 91,925 well above the high point of its SEG range. The Cottonwood Creek weir recorded 4,601 sockeye in 2003, approximately 1/4 of the average counted during the previous 6 years. No SEG has been set for this system. The return through the Wasilla Creek weir at 757 was average for the 5 years it has been operated at the present site (Table 45). Overall the sockeye return appeared to be good in the Knik Arm but varied between drainages.

Table 45.-Sockeye salmon counts from Yentna River sonar, Chelatna, Hewitt, Judd and Larson lakes, Fish, Cottonwood, Wasilla, Jim and Packers creeks weirs, and Little Susitna River weir, 1968-2003.

Year	Jim Ck Weir ^a	Fish Ck ^{b,c} Weir	Little Susitna R ^d Weir	Yentna R Sonar	Hewitt Lk Weir ^e	Chelatna Lk Weir ^f	Larson Lk Weir ^g	Packers Ck Weir	Judd Lk. Weir	Cottonwood Ck Weir	Wasilla Ck Weir
1968		19,616 ^h									
1969		12,456									
1970		25,000									
1971		31,470									
1972		6,981									
1973		2,705									
1974		16,225									
1975		29,882									
1976		14,032									
1977		5,183									
1978		3,555		94,000							
1979		68,739		157,000							
1980		62,828		191,000				16,477			
1981		50,479		340,000				13,024			
1982		28,164		216,000				15,687			
1983		118,797		112,000				18,403			
1984		192,352		194,000			35,254	30,684			
1985		68,577		228,000			37,874	36,850			
1986		29,800		92,000			32,322	29,604			
1987		91,215		66,000			16,753	35,401			
1988		71,603	2,642	52,347				18,607			
1989		67,224	6,203	96,269				22,304			
1990		48,717		140,379	12,943			31,868			
1991		50,500		105,000				41,275			
1992		72,108		66,057				28,361			
1993	3,548	117,619		141,694		20,235		40,869			
1994	5,197	100,638	16,918	128,032		28,303		30,788			
1995		115,101	7,129	121,479		20,104		29,473			
1996		63,164		90,781		28,684		17,767			
1997		55,035		157,797		84,899	40,112	19,364		8,224	
1998		22,865		119,623		27,284	63,514	17,732	34,416	27,930	840
1999		26,725		99,029			18,943	16,860		39,572	854
2000		19,533		123,749			11,822	20,151		16,921	245
2001		43,498		83,532						15,229	198
2002		90,482		78,430						6,791	1,354
2003		91,952		181,404						4,601	757
Mean	4,373	53,745	8,223	133,677		34,918	32,074	25,312		17,038	708
Goal		20,000- 70,000		90,000- 160,000				15,000-25,000			

^a Bartlett *Unpublished* b and c.

^b Measured by weir (1968 excepted). Years 1980-1993 include downstream foot surveys upon removing weir.

^c Years hatchery sockeye salmon contributed to the escapement were 1979-1981, 1983-1999.

^d Bartlett and Vincent-Lang 1989; Bartlett and Sonnichsen 1990; Bartlett 1996a and 1996b.

^e CIAA 1991.

^f CIAA 1998a.

^g CIAA 1998b.

^h A counting screen was used instead of a weir.

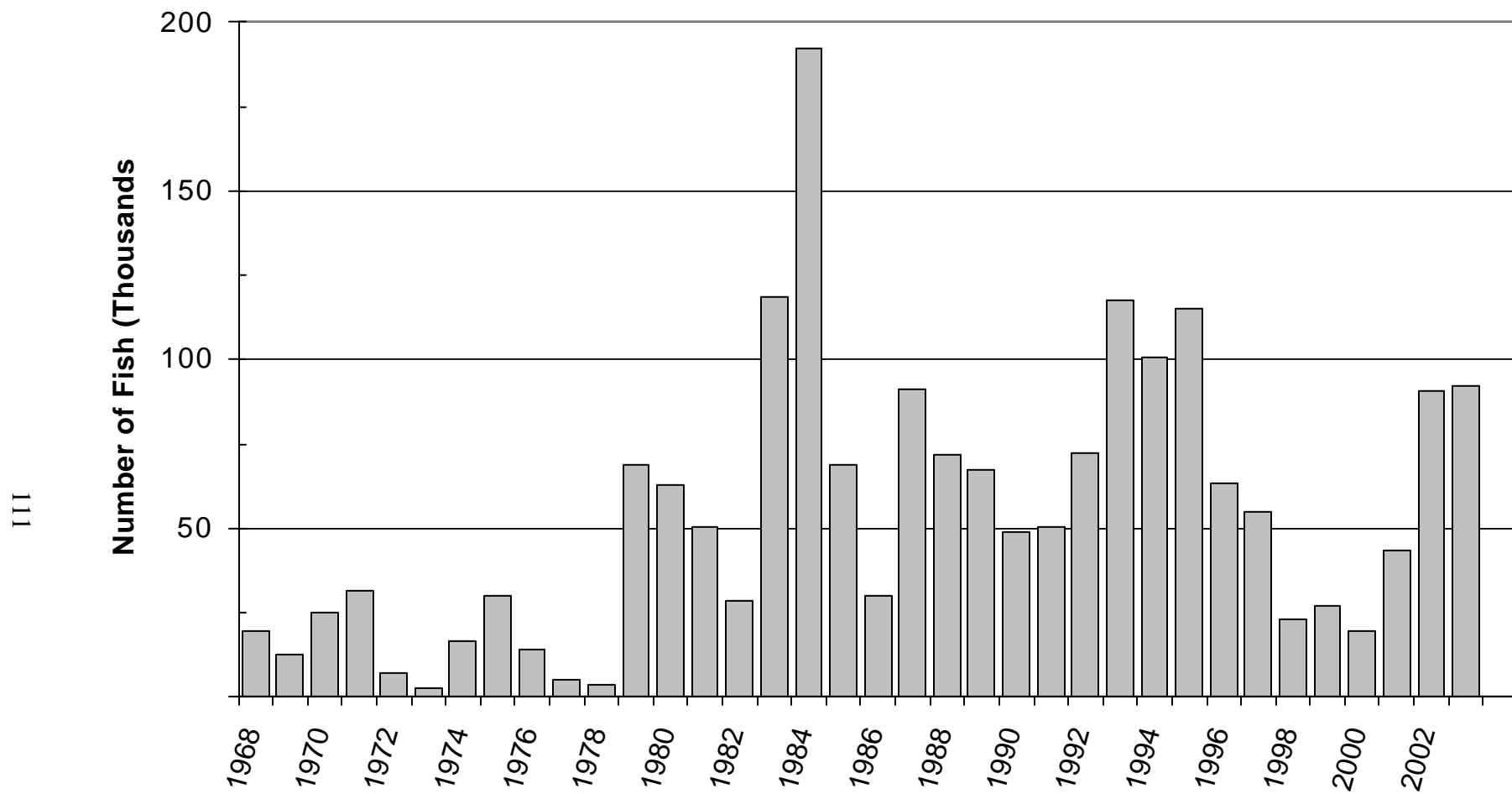


Figure 20.-Fish Creek sockeye salmon escapement, 1968-2003.

Table 46.-Big Lake Hatchery (1975-1992), Eklutna Hatchery (1993-1996) and Trail Lakes Hatchery (1997-2003) sockeye salmon fry releases into the Big Lake drainage by brood year, 1975-2002.

Brood Year	Eggs Incubated	Fry Released	Egg/Fry Survival	Number Marked	Release Size-gm
1975	180,300	71,168	39.5%	0	0.15
1976	10,034,013	7,686,382	76.6%	72,673	0.15
1977	8,748,867	5,739,010	65.6%	66,153	0.13
1978	9,832,726	0	0.0%		
1979	5,053,808	806,047	15.9%	0	0.15
1980	4,699,733	3,967,941	84.4%	0	0.14
1981	5,662,004	4,263,356	75.3%	0	0.17
1982	8,624,662	6,601,409	76.5%	0	0.16
1983	9,294,426	7,362,000	79.2%	0	0.15
1984	16,210,000	12,430,000	76.7%	18,835	0.15
1985	21,550,000	15,000,000	69.6%	18,120	0.20
1986	17,500,000	11,866,000	67.8%	19,613	0.20
1987	20,300,000	14,492,000	71.4%	20,085	0.15
1988	19,700,000	13,205,848	67.0%	24,848	0.15
1989	14,835,000	10,815,319	72.9%	24,319	0.20
1990	14,734,000	10,037,290	68.1%	22,290	0.24
1991	7,357,000	3,111,000	56.4%	0	0.25
1992	10,330,000	4,586,000	59.2% ^a	0	0.22
1993	9,000,000	5,000,000 ^b	91.8%	0	0.43
1994	7,700,000	5,000,000 ^b	80.5%	0	0.40
1995	8,000,000	5,000,000 ^b	81.6%	0	0.39
1996	8,000,000	4,000,000 ^b	66.9%	0	0.40
1997	8,000,000	5,000,000 ^b	62.5%	0	no data
1998	5,132,000	197,000 ^b	20.3%	100% ^c	0.62-0.73
1999	1,490,000	845,800	56.8%	100% ^c	0.30-0.41
2000	3,638,000	0	70.4%	100% ^c	NA
2001	6,286,000	4,316,000	73.1%	100% ^c	0.51-0.57
2002	6,342,000			100% ^c	

^a Includes 1,534,000 fry transferred to Eklutna hatchery.

^b Additional fry retained for smolt program.

^c 100% otolith marked.

Sockeye salmon were sampled for age, sex and length at weirs operated on Cottonwood, Wasilla and Fish creeks. Data pertaining to age and sex composition and length-at-age are contained in Appendix L.

As more data have become available concerning the northern pike invasion of the Susitna River drainage, their detrimental effect on sockeye salmon populations has become evident. A detailed listing of sockeye salmon populations affected in streams and lakes of the NCI is included in the northern pike section of this report.

Management Objectives

The management objective for sockeye salmon in the NCIMA is to attain established escapement goals as measured at various weirs and sonar sites while harvesting fish in excess of these escapement goals.

Recent Board of Fisheries Actions

The following regulations were adopted at the February 2002 BOF meeting:

1. The Larson Creek drainage upstream of a marker ¼ mile upstream from its mouth is closed to sport fishing for all salmon year-round.
2. Nancy Lake Creek drainage upstream of a marker ¼ mile upstream from its mouth is closed to all salmon fishing including catch-and-release.
3. The Fish Creek personal use fishery will open by EO when the escapement goal is projected.
4. The Fish Creek Sockeye Salmon Management Plan (5 ACC 21.365) was repealed.

In addition the BOF ruled a yield concern for Fish Creek sockeye salmon exists and recommended establishing an action plan to address this stock. In response staff developed the Fish Creek Sockeye Salmon Stock Status and Action Plan, 2002 addressing the habitat and its mixed hatchery and wild stock composition.

The next BOF meeting addressing sockeye salmon is scheduled in January 2005.

Current Issues

Currently the recreational fishery for sockeye salmon in the Susitna River and Knik Arm drainages is mostly incidental to the harvest of other salmon. However, directed sockeye salmon fisheries occur in the Susitna River drainage at Larson Creek (Talkeetna River drainage), Lake Creek, Talachulitna River, at the mouth of Nancy Lake Creek in the Little Susitna River drainage and at Jim Creek. With the areawide reduction of the coho bag and possession limits, managers anticipate the harvest of NCIMA sockeye salmon will increase as anglers begin targeting sockeye to supplement their harvests.

In response to the guidelines established in the Sustainable Salmon Fisheries Policy (5 AAC 39.222), the department during the October 2001 BOF work session recommended Fish Creek sockeye salmon as a candidate for stock of yield concern status. The Board of Fisheries, after reviewing stock status information and public input during the February 2002 regulatory meeting, classified Fish Creek sockeye salmon as a stock of yield concern. This determination was based on the chronic inability, despite the use of specific management measures, to maintain expected yields or harvestable surpluses above a stock's escapement needs within the bounds of the SEG.

The Fish Creek Sockeye Salmon Stock Status and Action Plan, 2002 was developed as directed by the BOF. The objective of the action plan is to modify current land use patterns that may adversely affect fish habitat resource values in the Fish Creek watershed through education (in the form of technical assistance by ADF&G), increased community planning involvement, monitoring, and research to increase escapement into the Fish Creek watershed so that the SEG range can be achieved.

Specific actions recommended to implement the objective are:

- Maintain existing levels of publicly-held (i.e. state, municipal, and federal) lands that support fish habitat.

- Increase Title 16 bio-monitoring and enforcement in the Fish Creek watershed.
- Enhance free and efficient fish passage and improve water quality by removing or repairing any stream crossing structures (primarily culverts) assumed to block fish movements or impair water quality as sources of sediment input.
- Modify or remove the water control structure at the outlet of Big Lake to restore fish passage of juvenile salmon from Fish Creek upstream into Big Lake.
- Consult with user groups to identify the growing problem of illegal ORV crossings of fish streams and adverse impacts to riparian habitat.
- Pending availability of funds, purchase lands that will provide protection for fish habitat and investigate the use of conservation easements to protect riparian habitat and maintain healthy streambank conditions.
- Foster development of a community-based watershed council for educating the public on proper land use practices that protect fish habitat and for monitoring watershed health and condition.

In the last 5 years, demand for sport fishing and bear viewing has increased significantly at Wolverine Creek, a tributary to Big River Lakes in the Redoubt Bay Critical Habitat Area (RBCHA). The abundance of salmon during early to mid summer attracts both bears and people to the small cove joining the lake and creek. The SWHS has been our only means to measure harvest of sockeye in Wolverine Creek and has indicated a harvest of between 400 to 3,000 fish annually (Appendix A27). It has become evident during the previous 3 years the use of the area has increased tremendously and guides and charter operators were asked to keep track of the harvest of sockeye by their clients. These numbers indicate a significantly larger harvest is occurring than that estimated by the SWHS. Very little is known about the size of the return to Wolverine Creek and managers are concerned about the effect of the increasing harvest. Specific concerns that have arisen from visitor use at Wolverine Creek include food-conditioning of bears, displacement of feeding bears during summer, conflicts between bear watchers and sport anglers, storage of boats, human sanitation, public safety, and onsite fish cleaning. Maintaining fish runs and bear numbers has not been a management issue in the past.

Ongoing Research and Management Activities

Fish Creek escapement is monitored by a weir located approximately 3 miles from the confluence of Fish Creek into Knik Arm. The Fish Creek drainage is scheduled to be stocked annually with sockeye salmon fry from a CIAA hatchery. Weirs on Cottonwood and Wasilla creeks have been in operation the past 5 years primarily for coho salmon enumeration, but have allowed the opportunity to monitor the sockeye salmon return also.

For the past 4 years, ADF&G has actively managed the Wolverine Creek area to maintain public access and improve opportunities for fishing and bear viewing in a high quality environment. Seasonal staff has been stationed in the area between mid-June and late July to stop food conditioning of bears, minimize displacement of feeding bears, and reduce adverse effects of visitors on wildlife habitat. Onsite staff interacts with guides and visitors and serves as informational and educational resources for the continued public use and enjoyment of the area. In addition they have monitored boat and aircraft use of the area and encouraged guides and visitors to comply with management guidelines adopted to address the previously mentioned concerns.

Susitna River escapement is monitored at a sonar site on the Yentna River operated by the Commercial Fisheries Division.

Recommended Research and Management

Expansion of existing sockeye salmon escapement monitoring programs is recommended. Specifically, we need to refine and evaluate the Yentna River sonar and to evaluate the distribution of spawning sockeye salmon upstream of the sonar site.

A program to determine the size of the sockeye return to Wolverine Creek should be initiated and the current monitoring program should continue.

PERSONAL USE AND SUBSISTENCE FISHERIES

Background and Historical Perspective

In 1978, the State of Alaska passed its first subsistence statute, 5 AAC 16.05.258, which gave priority to subsistence uses of fish and game resources over other uses. Sockeye salmon is the predominant harvest in these fisheries. Brannian and Fox (1996) provide a detailed history of subsistence and personal use salmon fishing in Upper Cook Inlet. Currently, the only subsistence fishing in the NCIMA is the gillnet fishery in the Tyonek Subdistrict on the west side of Cook Inlet in the Northern District, and a fish wheel fishery in the Yentna River near the community of Skwentna. Additionally, there is a personal use dip net fishery in Fish Creek and a personal use smelt fishery, the majority of which takes place in the Susitna River.

Fish Creek sockeye salmon have long been used in commercial and subsistence fisheries (Engel and Vincent-Lang 1992). The Knik Arm subsistence fishery was operational through 1970. In 1971 the fishery was closed because of declining sockeye salmon escapements into Fish Creek. It was reopened in 1984 and 1985, and then closed again in 1986.

The Fish Creek commercial set gillnet and personal use dip net fisheries along the northwest shore of Knik Arm were initiated by the Board of Fisheries in 1986 to use sockeye salmon surplus to spawning and egg take needs. These fisheries continued annually, contingent upon a projected escapement of 50,000 Fish Creek sockeye salmon. Closure of the commercial fishery after July 26 was mandatory to prevent an excessive interception of coho salmon. In 1989 the period these fisheries were open to harvest sockeye salmon was modified to reduce conflict between the two user groups. On projection of a 50,000 sockeye salmon escapement to Fish Creek, the commercial fishery was allowed from July 15 through July 26. Fishing periods were Tuesdays and Sundays from 7:00 a.m. to 7:00 p.m. Due to low returns in 1997 and 1998, the BOF closed this fishery for the 1999 through 2001 fishing seasons. As returns continued below desired escapement levels this fishery was eliminated by the BOF at its 2002 meeting. In 2002 the BOF also adopted a new SEG for Fish Creek sockeye salmon. It is now stated as a range of 20,000-70,000 fish.

In 1986 the dip net fishery was initially established (Whitmore et al. 1994) to open July 30, but numerous changes have occurred since then. These changes are listed as BOF actions in Appendix F1.

Fish Creek began experiencing low returns in 1997 (Table 45). Beginning in 1997 every season has been interrupted by an EO (Appendix D1) closing the dip net fishery to enable meeting the escapement goal. In 2002 the Fish Creek dip net fishery was modified under the Upper Cook Inlet Salmon Fisheries Management Plan. The current fishery is open by EO when it is projected Fish Creek will

reach the high point of its SEG range as counted through the Fish Creek weir. This range was set in 2002 at 20,000-70,000 naturally produced fish. A permit is required, with a limit of 25 fish for the head of household plus 10 fish for each additional member of the household. These permits must be returned with the total catch recorded. The closing date is set at July 31 to limit the number of coho salmon harvested.

The Upper Cook Inlet Subsistence Management Plan provided for a subsistence set gillnet fishery in marine waters in the Northern District of Upper Cook Inlet in 1991, 1992 and 1994 (Table 23). Subsistence set gillnet fishing was allowed for a total of 17 days between May 21 and September 28. A subsistence set gillnet fishing day in Northern Cook Inlet was from 8:00 a.m. until 8:00 p.m. The threat of a court-ordered closure of this subsistence fishery for the 1995 season caused the BOF to take action to allow the fishery to proceed as a personal use fishery (Table 23). This gillnet personal use fishery was eliminated prior to the 1996 season by BOF action.

The BOF established the Skwentna River Personal Use Salmon Fishery in March of 1996. As a result of State of Alaska Supreme Court and BOF action, it was reinstituted as the Upper Yentna River Subsistence Salmon Fishery beginning in 1998. The fishery occurs in the mainstem Yentna River from its confluence with Martin Creek upstream to its confluence with the Skwentna River and is prosecuted strictly by fish wheel. Most of the participants are local residents from the Skwentna area. The season is from July 15 through July 31, from 4:00 a.m. until 8:00 p.m. on Mondays, Wednesdays and Fridays. Sockeye salmon dominate the harvest and chinook salmon harvest is not allowed. The number of permits returned per season has ranged from 14 in 1996 to 25 in 2002 and averaged 19. Average annual harvest is 550 fish (Table 22).

The Tyonek subsistence fishery was established in 1980. Participants are allowed to harvest all species of salmon. Tyonek natives are the primary users. The season commences on May 15 and continues through October 15. Chinook salmon dominate the harvest while coho and sockeye salmon are harvested in similar numbers. Few pink and chum salmon are harvested (Table 22).

The overwhelming majority of the personal use smelt harvest occurs in the Susitna River drainage downstream of the Deshka River confluence (Appendices A82 and A83). There is also a small harvest in the Knik Unit at the mouth of Fish Creek. The average Susitna River harvest from 1997–2001 was 6,530 (Appendix A83). The inriver return of smelt to the Susitna River drainage ranges in the millions with personal use harvest accounting for less than 1% of this return. In terms of harvest, this fishery is likely one of the most underutilized in the state. It is managed inseason with spot checks conducted by Palmer Area staff and postseason through the SWHS. It is likely that unless increased access is provided to the Susitna River, the personal use harvest of smelt will remain fairly stable.

Recent Fishery Performance

The Fish Creek personal use dip net fishery presently is opened by EO when it is projected the upper limit of the SEG range, 70,000 naturally produced sockeye salmon as set in 2002, will be attained as counted through the Fish Creek weir. Presently there is no program in place inseason to determine the proportion of the return made up of naturally produced fish; however, the stocking level is known and when an average return of these fish is allowed the approximate return from the hatchery release can be estimated. For management purposes it is assumed that when the upper point of the SEG is projected, after allowing for an average return from the hatchery release, that an adequate number of naturally

produced fish will be available for spawning and the dip net fishery can be opened. The fishery is restricted to the waters of Fish Creek and limited to the hours of 11:00 a.m. to 11:00 p.m. daily. In recent years returns have been low (Table 45) and the fishery has been interrupted by EO closures annually in order to allow sufficient spawning escapement. In 2003 the fishery remained closed the entire season. The final Fish Creek weir count for 2003 reached 92,000 sockeye, of which an unknown number were naturally produced. However, the fishery was not allowed because the total was not projected to exceed the SEG until the final days of July making it too late to open.

Fifteen permits were issued for the 2003 Upper Yentna River Subsistence fishery with an average harvest per permit of 35 fish (Table 22), above the 1996-2002 average of 29. Total harvest for 2003 was 524 fish of which 433 were sockeye salmon, 76 coho salmon, 2 pink salmon and 13 chum salmon.

The 2003 Tyonek subsistence fishery harvest estimate totaled 1,106. Harvest by species was 973 chinook, 89 sockeye, 29 coho, 5 pink and 10 chum salmon (Table 22).

The 2002 NCIMA estimated smelt harvest was 3,298 fish, approximately 20% of the 1997-2001 mean (Table 7). Inseason observations of run strength by staff indicate the 2003 harvest should be similar to the 1997-2001 average.

Management Objectives

The management objective for the Fish Creek personal use fishery is to allow escapement of sockeye salmon along the entire course of the return while harvesting fish in excess of spawning needs. The BOF adopted a SEG range of 20,000-70,000 sockeye salmon in 2002. Prior to this the escapement goal was set at 50,000, which represented the minimum desired escapement. The fishery is designed to target primarily sockeye salmon, terminating prior to the peak of the coho salmon return. The Upper Cook Inlet Personal Use Salmon Fishery Management Plan governs regulation and management of this fishery.

There are no specific management objectives for the personal use smelt fishery, Tyonek subsistence fishery or the Upper Yentna River subsistence fish wheel fishery. However, all fisheries are managed to provide sustained yield.

Recent Board of Fisheries Actions

During the February 2002 BOF meeting the following regulations were adopted:

1. The Fish Creek personal use fishery will open by EO when it is projected the upper limit of the SEG range (20,000-70,000 naturally produced sockeye salmon) will be surpassed.
2. The Fish Creek Sockeye Salmon Management Plan (5 AAC 21.365) was repealed.

The Board also determined a yield concern for Fish Creek sockeye salmon exists and directed staff to establish an action plan for the Big Lake drainage that addresses the habitat and mixed hatchery and wild stock composition.

The next BOF meeting addressing Cook Inlet finfish is scheduled in 2005.

Current Issues

The Fish Creek Dip Net Fishery was closed early because of poor returns of sockeye salmon in 1997 through 2001. The number of fry stocked into the Big Lake drainage has declined, and in 2001 no fry

were stocked because the 2000 brood stock fry were lost to an IHN virus outbreak at Trail Lakes Hatchery (Table 46). In 2003 brood stock were collected from a weir on Meadow Creek. All fry reared from eggs collected will be returned to the Big Lake drainage.

The Board of Fisheries, after reviewing stock status information and public input during the February 2002 regulatory meeting, classified Fish Creek sockeye salmon as a stock of yield concern. As a result the Fish Creek Sockeye Salmon Stock Status and Action Plan was developed. The objective of the action plan is to modify current land use patterns that may adversely affect fish habitat resource values in the Fish Creek watershed in order to increase escapement into the Fish Creek watershed so that the SEG range can be achieved. Specific objectives are described in the Sockeye Salmon Current Issues section of this report.

Much of the land adjacent to the Fish Creek dip net fishery is under private ownership causing annual conflict between fishery participants and landowners. Due to the large number of people participating in the fishery there is conflict between shore and boat fishermen, litter accumulation and substantial short-term damage to the marsh area near the mouth of Fish Creek. These problems are the source of increasing comment by the public and local landowners. The department presently provides toilets and a dumpster to alleviate the litter problem.

Ongoing Research and Management Activities

Department markers and regulatory signs are placed at the mouth of Fish Creek to delimit the legal fishing area and list the present regulations.

Fish Creek escapement is monitored by a weir located approximately 3 miles from the outlet of Fish Creek into Knik Arm. Scales are collected and sent to Commercial Fish Division staff in Soldotna for aging. Smolt released have been otolith marked by CIAA at Trail Lakes Hatchery and heads of sockeye returning to the weir are collected for otolith reading by Commercial Fish Division staff. The Commercial Fish Division's proposed research project is outlined in the Fish Creek Sockeye Salmon Stock Status and Action Plan, 2002.

CIAA began operating a smolt weir in Fish Creek in 2002. It is planned to run for 5 years.

The Fish Creek personal use harvest is estimated by the return of personal use permits. The Fish Creek drainage is scheduled to be stocked annually with sockeye salmon fry from a CIAA hatchery.

Susitna River escapement is monitored at a sonar site on the Yentna River operated by the Commercial Fisheries Division. Harvest information for the Upper Yentna and Tyonek subsistence fisheries is collected from returned permits as required by the permitting process. Harvest information for the personal use smelt fishery is collected through the SWHS.

Recommended Research and Management

Department markers will continue to be placed at the mouth of Fish Creek. Placement of signs to inform participants of fishery regulations and fish identification techniques will continue. As with most fisheries in this management area, increased enforcement would provide for a more orderly fishery.

The department will continue to operate the weir on Fish Creek as long as the personal use fishery exists. The CIAA will operate their smolt weir for 5 years.

The Commercial Fisheries Division proposed research project is outlined in the Fish Creek Sockeye Salmon Stock Status and Action Plan, 2002.

Department markers will continue to be placed at the boundaries of the Upper Yentna River subsistence fishery area.

EDUCATIONAL FISHERIES

Background and Historical Perspective

The first educational fishery, the 1989 Kenaitze Tribal fishery (on the Kenai Peninsula), originated as a Federal Court-ordered subsistence fishery resulting from extensive legislation and litigation related to both state and federal interpretation of subsistence. Prior to the 1993 fishing season the Alaska Superior Court, in negotiations with the department and the Kenaitze Tribe, ordered the department to issue educational fishing permits. The Knik Tribal Council and the Native Village of Eklutna were first issued permits for the 1994 season. The Tyonek Subsistence Camp was issued permits in 1998-2000. These educational fisheries, originally ordered as interim fisheries until the court cases were decided, have been applied for and renewed by the department annually.

The guidelines for educational fisheries were established by the BOF and are administered under Chapter 93 of the Alaska Administrative Code. Only 1,000 fish per permit are allowed. The season is from May 1 to September 30. These permits are issued on an annual basis and must be renewed each year. Permit holders must submit to the department a postseason summary as indicated in the specifications. A failure to meet specifications will result in nonrenewal of a permit.

Recent Fishery Performance

The Knik Tribal Council educational permit harvest averaged 228 fish annually from 1994-2002. During the 2003 season 823 salmon were harvested. Sockeye dominated the harvest with 654 (Table 47).

The Eklutna Native Village educational permit harvest averaged 244 fish annually from 1994-2002. The 2003 season resulted in a total harvest of 313 fish. Sockeye salmon dominated the harvest with 160 fish, followed by 69 chinook salmon. Also harvested were 49 coho, 21 chum, and 14 pink salmon (Table 47).

Management Objectives

The objective of this fishery is to implement the provisions of the permit. Standards, general conditions, and requirements of an educational fishery program are outlined in 5 AAC 93.200-235. Council and Tribal objectives for the educational fisheries include teaching and preserving the cultural and traditional subsistence way of life as well as providing food for the elders and others in need.

Recent Board of Fisheries Actions

The Board has not recently addressed this fishery.

Current Issues

The educational fishery harvests of all species of salmon are minimal and have an insignificant effect on the inriver sport fisheries.

Table 47.-Educational fishery permit harvests in NCIMA, 1994-2003.

Permit Holder	Chinook	Coho	Sockeye	Pink	Chum	Total	Dates of Operation
Knik Tribal Council							
1994						29	
1995	5	1	21	0	1	28	
1996	5	45	163	3	62	278	6/17-7/20
1997	19	34	153	0	15	221	5/29-8/10
1998	31	153	186	0	85	455	5/14-8/15
1999	42	120	177	0	55	394	5/27-8/14
2000	65	63	34	0	18	180	5/26-8/06
2001	32	34	71	0	0	137	5/13-8/10
2002	55	99	136	5	36	331	5/20-8/9
Average	32	69	117	1	34	228	
2003	34	87	654	3	45	823	5/24-8/15
Eklutna Village							
1994		7				172	
1995	14	37	55	6	42	155	
1996 ^a							
1997	7	14	39	16	7	83	5/1-9/30
1998	32	116	104	6	51	309	5/1-9/30
1999	11	25	80	3	20	139	5/1-9/30
2000	17	85	76	21	51	250	5/1-9/30
2001	58	95	52	56	34	295	5/1-9/30
2002	58	156	220	40	76	550	5/1-9/30
Average	28	67	89	21	40	244	
2003	69	49	160	14	21	313	5/1-9/30
Tyonek Village							
1998	0	41	11	3	1	56	8/12-8/14
1999	0	0	100	0	0	100	7/7-7/10
2000	0	0	97	0	0	97	7/6-7/9
Average	0	14	69	1	1	84	

^a No data available

Ongoing Research and Management Activities

Reports on the educational program, as required by each permit, have been submitted annually to the Area Biologist and compiled in the Area Management Report.

Recommended Research & Management

No research activity specific to this fishery is recommended. The annual permit data should continue to be compiled.

STOCKED LAKE FISHERIES

Background and Historical Perspective

Currently 85 lakes in the NCIMA are stocked on an annual or biennial basis, including one research lake that is closed to fishing (Appendix C1). These lakes range in size from 2 to 362 surface acres and are stocked with a variety of sizes and species of game fish including: rainbow trout, coho salmon, chinook salmon, Arctic grayling, Arctic char, lake trout and recently a chinook salmon and pink salmon hybrid (pinook).

The stocking program began in 1952 when two lakes received 22,000 rainbow trout fry. Although eight species of salmonids have been planted since 1952, rainbow trout, coho salmon, Arctic char and Arctic grayling have become the primary species used in the stocking program. Steelhead/rainbow trout from the Karluk River (Kodiak) and four strains of Alaska rainbow trout (Naknek River, Talarik Creek, Swanson River and Big Lake) as well as rainbow trout from federal and private hatcheries located in the states of Idaho, Montana, Oregon and Washington have been stocked. Landlocked salmon fisheries have been supported by coho salmon from Washington State and at least nine Alaskan egg take sources, and chinook salmon from three Alaskan sources. Since 1979 only native Alaskan fish have been stocked in the NCIMA. Arctic grayling egg-take sources have been Junction Lake, Tolsona Lake and Moose Creek. Arctic char, originating from egg takes at Aleknagik Lake, and lake trout from Paxson Lake were first stocked in 1988.

The final egg take from Big Lake strain rainbow trout brood stock at Fort Richardson Hatchery took place in 1993. All resulting fingerling were stocked in Big Lake drainage lakes and all remaining brood stock were stocked in Anchorage area landlocked lakes and in Big Lake. Swanson River strain rainbow trout are the sole rainbow trout brood stock source remaining at the Ft. Richardson Hatchery. Beginning in 1994, Big Lake drainage system lakes having intermittent outlets have been stocked with triploid all-female Swanson River strain rainbow trout.

In most cases stocked landlocked lakes represent new fisheries because game fish were not present before stocking occurred. Stocked lakes benefit anglers and recreational support industries by providing diverse, year-round fishing opportunities and by diverting angling pressure from natural stocks. The majority of the stocking is directed toward road-accessible lakes that tend to draw entire family groups for some combination of fishing, camping, picnicking, boating, snowmachining and ice skating.

A survey of anglers fishing stocked lakes in the NCIMA in 1977 (Watsjold 1978) revealed that 70% preferred to fish for rainbow trout, 19% desired landlocked coho salmon and 11% listed Arctic grayling as their choice. Rainbow trout comprised 60% of all fish stocked in landlocked lakes within the NCIMA during the period 1993 through 2003. Annual releases of all species during 1999-2003 ranged from 530,964 to 947,653 (Appendix C1).

The majority of rainbow trout released into NCIMA waters have been fingerlings. Most fingerlings weighed between 1 and 2 grams and were released during July and August. By June of the year following introduction, fingerlings at age 1 will typically range from 3 to 6 inches in length, at age 2 from 6 to 11 inches, at age 3 from 11 to 16 inches, and at age 4 from 16 to 20 inches in length. Approximately 70% to 80% of the rainbow trout harvested from stocked lakes are age 2 and about 15% to 20% are age 3. Few stocked rainbow trout exceed age 4 and relatively few rainbow trout achieve harvestable size prior to age 2 (Havens et al. 1995).

Catchable rainbow trout, weighing about 100 grams, are stocked in nonproductive lakes to increase angling opportunities and help maintain good catch rates in heavily fished lakes. Fifteen percent of the rainbow trout stocked in the NCIMA are catchable size at introduction.

Coho salmon are normally stocked in May at about 3 to 5 grams each. These fish achieve a harvestable size (6 to 11 inches) at age 2, the year following introduction. Most coho salmon are either harvested or die after becoming sexually mature by age 3. Stocked salmon support important winter fishing opportunities within the NCIMA.

Arctic grayling are stocked in early summer as catchables weighing 70 to 80 grams.

King salmon are stocked as catchables, weighing about 100 grams, in early November providing winter ice fishing opportunities in three heavily fished lakes.

Arctic char are stocked as catchables weighing about 100 grams in May in 14 lakes (Appendix C1), providing more diversity for sport fishing.

Although the contributions from the landlocked lake stocking program have been significant to date, it is important to recognize that poor survival of stocked fish has also been documented. Research investigations have accompanied development of the area's stocking program since the early 1970s. The primary objective of this research has been to develop cost-effective stocking practices that provide both expanded and diverse fishing opportunities. Lake stocking research has been directed toward but not limited to the following: evaluation and selection of rainbow trout brood stock, development of effective stocking densities and size of stocked fish for various lake environments, establishment of optimal time and frequency of stockings in various landlocked lake environments, evaluation of sterile coho salmon and rainbow trout for stocking lakes that have open or intermittent linkage with drainages that support wild fish, and evaluation of female diploid rainbow trout to eliminate high mortality associated with spawning males (Bentz et al. 1991).

Presently there are three lake management plans addressing stocking for NCIMA lakes: Finger Lake Management Plan, Kepler-Bradley Complex Management Plan and Matanuska-Susitna Valley Small Lakes Management Plan (ADF&G *Unpublished b*).

Recent Fishery Performance

In 2003, 74 lakes were stocked with 947,653 game fish (Appendix C1). The majority of these lakes are located in the Knik Arm Management Unit and the remainder in the Eastside Susitna Management Unit. Releases in 2003 included 652,146 rainbow trout; 108,186 coho salmon; 28,533 Arctic grayling; 44,605 chinook salmon and 114,183 Arctic char. Twenty-six lakes were stocked with more than one species of fish in 2003. Stocking locations, species, numbers of fish and fish size are listed in Table 48.

Table 48.-Northern Cook Inlet Management Area lake stocking summary for nonanadromous fish, 2003.

LAKE STOCKED	SURFACE ACRES	DATE STOCKED	NUMBER STOCKED	BROODSTOCK (TREATMENT) ^a	HATCHERY	STOCKING SIZE	STOCKING METHOD ^b
Rainbow Trout				Swanson R. Mixed			
Barley	19	08/22/03	1,980	03 Swanson R	Ft. Richardson	1.6g	T/BU
Bearpaw	45	08/16/03	380	02 Swanson R	Ft. Richardson	380.0g	T/BU
		8/28/03	4,664	03 Swanson R	Ft. Richardson	1.9g	T/BU
Bench	52	09/08/03	2,445	03 Swanson R(TAF)	Ft. Richardson	1.2g	A
Benka	123	08/25/03	8,000	01 Swanson R	Ft. Richardson	1.7g	T
Beverly	42	08/26/03	2,083	03 Swanson R(TAF)	Ft. Richardson	1.9g	T/BU
Big Beaver	161	08/29/03	16,119	03 Swanson R(TAF)	Ft. Richardson	1.3g	T
Boot	34	08/28/03	6,623	03 Swanson R	Ft. Richardson	1.9g	T/BU
Bruce	27	05/22/03	1,195	02 Swanson R	Elmendorf	149.0g	T
Butterfly	50	08/22/03	2,539	03 Swanson R(TAF)	Ft. Richardson	1.3g	T/BU
Carpenter	176	08/22/03	29,861	03 Swanson R	Ft. Richardson	1.4g	T
Christiansen	179	08/25/03	23,410	03 Swanson R	Ft. Richardson	1.7g	T
Coyote	2	05/28/03	300	02 Swanson R(TAF)	Elmendorf	101.0g	T
Cranberry	63	08/29/03	6,795	03 Swanson R(TAF)	Ft. Richardson	1.3g	T
Crystal	132	08/28/03	5,127	03 Swanson R(TAF)	Ft. Richardson	1.9g	T
Dawn	12	08/29/03	2,450	03 Swanson R(TAF)	Ft. Richardson	1.3g	T/BU
Diamond	139	08/29/03	23,494	03 Swanson R	Ft. Richardson	1.9g	T
Echo	23	05/12/03	1,455	02 Swanson R	Elmendorf	160.0g	T
Farmer	21	08/22/03	2,210	03 Swanson R	Ft. Richardson	1.6g	T/BU
Finger	362	08/20/03	65,032	03 Swanson R	Ft. Richardson	1.4g	T
Florence	55	08/28/03	11,017	03 Swanson R	Ft. Richardson	1.9g	T/BU
Gate	10	05/20/03	530	02 Swanson R(TAF)	Elmendorf	134.0g	T
Golden	13	08/26/03	3,034	03 Swanson R	Ft. Richardson	1.7g	T
Homestead	17	08/29/03	1,734	03 Swanson R(TAF)	Ft. Richardson	1.3g	T/BU
Honeybee	58	08/28/03	10,100	03 Swanson R	Ft. Richardson	1.9g	T/BU
Ida	46	09/03/03	9,600	03 Swanson R	Ft. Richardson	1.2g	T/BU
Irene	18	05/07/03	1,727	02 Swanson R	Ft. Richardson	143.0g	T/BU
Johnson	40	08/27/03	4,110	03 Swanson R	Ft. Richardson	1.9g	T
Kalmbach	125	08/26/03	25,202	03 Swanson R	Ft. Richardson	1.7g	T
Kashwitna	160	08/28/03	8,032	03 Swanson R(TAF)	Ft. Richardson	1.9g	T
Kepler-Bradley	58	04/29/03	5,400	02 Swanson R	Elmendorf	146.0g	T
		07/03/03	1,910	02 Swanson R	Elmendorf	147.0g	T
Knik	50	05/15/03	2,015	02 Swanson R	Elmendorf	115.0g	T
Knob	52	06/09/03	1,332	02 Swanson R	Elmendorf	170.0g	T
Lalen	92	08/26/03	4,635	03 Swanson R(TAF)	Ft. Richardson	1.9g	T
Little Beaver	44	08/29/03	5,540	03 Swanson R(TAF)	Ft. Richardson	1.9g	T
Little Lonely	56	08/28/03	16,827	03 Swanson R	Ft. Richardson	1.9g	T/BU
Loberg	11	04/28/03	1,689	02 Swanson R	Ft. Richardson	138.0g	T
Long [K/B]	74	08/27/03	10,414	03 Swanson R	Ft. Richardson	1.7g	T/BU
Long (Mi. 86)	106	06/03/03	1,757	02 Swanson R	Elmendorf	164.0g	T
		06/06/03	1,785	02 Swanson R	Elmendorf	175.0g	T
		07/07/03	1,865	02 Swanson R	Elmendorf	158.0g	T
		09/09/03	35,327	03 Swanson R	Ft. Richardson	0.9g	T
Loon	108	08/26/03	5,416	03 Swanson R(TAF)	Ft. Richardson	1.9g	T
Lorraine	132	08/22/03	26,458	03 Swanson R	Ft. Richardson	1.4g	T/BU
Lucille	362	05/12/03	8,248	02 Swanson R(TAF)	Elmendorf	86.0g	T
Lynne	70	08/28/03	30,813	03 Swanson R	Ft. Richardson	1.9g	T
Marion	113	08/29/03	22,311	03 Swanson R	Ft. Richardson	1.9g	T/BU
Matanuska	62	05/13/03	1,945	02 Swanson R	Elmendorf	116.0g	T

-continued-

Table 48.-Page 2 of 3.

LAKE STOCKED	SURFACE ACRES	DATE STOCKED	NUMBER STOCKED	BROODSTOCK (TREATMENT) ^a	HATCHERY	STOCKING SIZE	STOCKING METHOD ^b
Rainbow Trout (continued)							
		05/16/03	3,784	02 Swanson R	Elmendorf	122.0g	T
Meirs	17	05/14/03	1,200	02 Swanson R	Elmendorf	143.0g	T
Memory	84	05/15/03	3,106	02 Swanson R	Elmendorf	115.0g	T
Mile 180	31	06/11/03	2,269	02 Swanson R(TAF)	Ft. Richardson	103.0g	T
North Friend	81	08/25/03	4,055	03 Swanson R(TAF)	Ft. Richardson	1.3g	T/BU
North Knob	36	06/04/03	1,866	02 Swanson R	Elmendorf	165.0g	T
North Rolly	122	08/28/03	9,856	03 Swanson R(TAF)	Ft. Richardson	1.9g	T/BU
Peggy	48	08/25/03	9,600	03 Swanson R	Ft. Richardson	1.7g	T/BU
Ravine	12	05/28/03	1,197	02 Swanson R	Elmendorf	154.0g	T/BU
Reed	20	08/27/03	2,033	03 Swanson R	Ft. Richardson	1.1g	T/BU
Rhein	84	08/23/03	4,196	03 Swanson R(TAF)	Ft. Richardson	1.9g	T/BU
Rocky	59	05/14/03	1,846	02 Swanson R	Elmendorf	143.0g	T
Seventeenmile	100	09/03/03	20,950	03 Swanson R	Ft. Richardson	1.4g	T
Seymour	229	08/26/03	11,463	03 Swanson R(TAF)	Ft. Richardson	1.3g	T
		09/14/03	18,925	03 Swanson R(TAF)	Ft. Richardson	1.2g	T
Slipper (Eska)	9	05/28/03	1,505	02 Swanson R(TAF)	Ft. Richardson	101.0g	T
South Friend	56	08/25/03	2,812	03 Swanson R(TAF)	Ft. Richardson	1.3g	T/BU
South Rolly	108	05/21/03	4,753	02 Swanson R(TAF)	Ft. Richardson	134.0g	T
Tanaina	109	05/21/03	5,064	02 Swanson R(TAF)	Ft. Richardson	134.0g	T/BU
Tigger	19	08/25/03	5,275	03 Swanson R	Ft. Richardson	1.7g	T/BU
Twin Island	151	08/22/03	7,569	03 Swanson R(TAF)	Ft. Richardson	1.3g	T/BU
Vera	111	08/28/03	5,660	03 Swanson R(TAF)	Ft. Richardson	1.9g	T/BU
Visnaw	131	08/26/03	6,353	03 Swanson R(TAF)	Ft. Richardson	1.3g	T
Walby	54	08/27/03	1,713	03 Swanson R(TAF)	Ft. Richardson	1.9g	T
Weiner	21	05/29/03	1,960	02 Swanson R(TAF)	Elmendorf	101.0g	T
West Beaver	103	08/29/03	10,349	03 Swanson R(TAF)	Ft. Richardson	1.3g	T
Willow	143	05/21/03	6,381	02 Swanson R(TAF)	Ft. Richardson	92.0g	T
Wishbone	53	09/05/03	2,625	03 Swanson R(TAF)	Ft. Richardson	1.2g	T/4W
Wolf	62	08/27/03	4,682	03 Swanson R(TAF)	Ft. Richardson	1.9g	T/BU
"Y"	40	08/25/03	14,200	03 Swanson R	Ft. Richardson	1.7g	T/BU
Total 72 Lakes	5,687						
	Diploid	Triploid	Total				
Catchables	39,519	31,010	70,529				
Fingerling	419,721	161,896	581,617				
Total:	459,240	192,906	652,146				
Coho Salmon (non-anadromous)							
Bear Lake Diploid							
Barley	19	05/06/03	1,980	02 Bear Lake	Ft. Richardson	2.5g	T/BU
Carpenter	176	05/06/03	17,661	02 Bear Lake	Ft. Richardson	2.5g	T
Christiansen	179	05/09/03	19,700	02 Bear Lake	Ft. Richardson	2.5g	T
		06/20/03	40,000	02 Bear Lake	Ft. Richardson	4.1g	T
Echo	23	05/05/03	2,305	02 Bear Lake	Ft. Richardson	2.5g	T
		05/09/03	10,787	02 Bear Lake	Ft. Richardson	2.5g	T
Johnson	40	05/05/03	1,066	02 Bear Lake	Ft. Richardson	2.5g	T
Kalmbach	125	05/09/03	9,960	02 Bear Lake	Ft. Richardson	2.5g	T
Klaire	7	05/05/03	903	02 Bear Lake	Ft. Richardson	2.5g	T/BU
Loberg	11	05/05/03	1,124	02 Bear Lake	Ft. Richardson	2.5g	T
Victor	14	05/05/03	2,700	02 Bear Lake	Ft. Richardson	2.5g	T/BU
Total 9 Lakes	594		108,186				

-continued-

Table 48.-Page 3 of 3.

LAKE STOCKED	SURFACE ACRES	DATE STOCKED	NUMBER STOCKED	BROODSTOCK (TREATMENT) ^a	HATCHERY	STOCKING SIZE	STOCKING METHOD ^b
Chinook Salmon							
Finger	362	09/22/03	34,401	2002 Willow Ck.	Ft. Richardson	84-90g	T
Knik	50	09/22/03	2,570	2002 Willow Ck.	Ft. Richardson	85.0g	T
Matanuska	62	09/24/03	2,627	2002 Willow Ck.	Ft. Richardson	83.0g	T
Memory	84	09/22/03	3,778	2002 Willow Ck.	Ft. Richardson	85.0g	T
Prator	98	09/22/03	1,229	2002 Willow Ck.	Ft. Richardson	85.0g	T
Total 5 Lakes	656		44,605				
Arctic Grayling							
Bruce	27	05/08/03	500	2002 Moose Lk.	Ft. Richardson	82.0g	T
		08/26/03	500	2003 Moose Lk.	Ft. Richardson	1.5g	T
Canoe	21	05/07/03	2,000	2002 Moose Lk.	Ft. Richardson	82.0g	T
		08/27/03	2,000	2003 Moose Lk.	Ft. Richardson	1.5g	T
Finger	362	04/30/03	4,080	2002 Moose Lk.	Ft. Richardson	80.0g	T
Florence	55	05/08/03	1,200	2002 Moose Lk.	Ft. Richardson	82.0g	T/BU
		08/28/03	1,000	2003 Moose Lk.	Ft. Richardson	1.5g	T/BU
Ida	46	09/03/03	1,000	2003 Moose Lk.	Ft. Richardson	2.0g	T
Kepler/Bradley	58	04/30/03	2,968	2002 Moose Lk.	Ft. Richardson	80.0g	T
		08/27/03	3,000	2003 Moose Lk.	Ft. Richardson	1.5g	T
Knik	50	05/08/03	2,000	2002 Moose Lk.	Ft. Richardson	82.0g	T
		08/22/03	1,000	2003 Moose Lk.	Ft. Richardson	1.3g	T
Lorraine	132	05/08/03	250	2002 Moose Lk.	Ft. Richardson	82.0g	T
		08/22/03	800	2003 Moose Lk.	Ft. Richardson	1.3g	T
Meirs	17	04/30/03	1,947	2002 Moose Lk.	Ft. Richardson	80.0g	T
		08/22/03	2,000	2003 Moose Lk.	Ft. Richardson	1.5g	T
Reed	20	05/07/03	1,085	2002 Moose Lk.	Ft. Richardson	82.0g	T/BU
		08/21/03	1,203	2003 Moose Lk.	Ft. Richardson	1.5g	T/BU
Total 10 Lakes	788						
Catchables	16,030		Fingerling	12,503	Total:	28,533	
Arctic Char							
Benka	123	5/20/03	950	2002 Aleknagik Lk.	Ft. Richardson	138g	T
Finger	362	4/29/03	52,030	2003 Aleknagik Lk.	Ft. Richardson	0.1g	T
		5/19/03	1,500	2002 Aleknagik Lk.	Ft. Richardson	95g	T
		7/8/03	500	2001 Aleknagik Lk.	Ft. Richardson	350g	T
Irene	18	5/7/03	823	2002 Aleknagik Lk.	Ft. Richardson	144g	T/BU
		11/21/03	64	2000 Aleknagik Lk.	Ft. Richardson	4.7kg	
Long (Mi. 86)	106	4/29/03	54,250	2003 Aleknagik Lk.	Ft. Richardson	0.1g	T
Marion	113	5/19/03	908	2002 Aleknagik Lk.	Ft. Richardson	95g	T
Matanuska	62	5/16/03	1,295	2002 Aleknagik Lk.	Ft. Richardson	134g	T
Memory	84	11/21/03	64	2001 Aleknagik Lk.	Ft. Richardson	1.9kg	T
		11/21/03	15	2000 Aleknagik Lk.		4.7kg	T
Seventeenmile	100	5/28/03	774	2002 Aleknagik Lk.	Ft. Richardson	140g	T
		6/19/03	209	2001 Aleknagik Lk.	Ft. Richardson	319g	T
		6/27/03	801	2001 Aleknagik Lk.	Ft. Richardson	330g	T
Total 8 Lakes	968						
Catchables	7,903						
Emergent Fry	106,280						
Total	114,183						
Grand Total 75	5,729		947,653				

^a Treatment: TAF = triploid all-female.

^b Stocking Method: T = tank truck; T/BU = carried in buckets to lake.

The SWHS (Jennings et al. *In prep b*) estimated that 27,695 angler-days of participation resulted from the area's landlocked stocking program in 2002 (Table 49). Fishing effort at lakes having both stocked and indigenous game fish is not included in estimates of participation associated with lake stocking. The 2002 catch from stocked landlocked lakes included an estimated 57,004 rainbow trout of which 19,016 (33%) were harvested, 13,708 landlocked salmon of which 53% were harvested; 2,695 Arctic grayling of which 16% were harvested; and 4,518 Arctic char of which 26% were harvested. Rainbow trout from stocked lakes represented 28% of all rainbow trout caught and 60% of the entire harvest of this species from the NCIMA during 2002 (Tables 49 and 50).

In 2002 the Kepler Lake Complex, consisting of nine stocked lakes, supported 3,576 angler-days of effort. Finger Lake supported 6,374 angler-days of effort (Table 49). Collectively, these two sites yielded approximately 36% of the effort associated with stocked landlocked lakes within the NCIMA (Jennings et al. *In prep b*).

Management Objectives

Presently there are three lake management plans addressing stocking for NCIMA lakes: Finger Lake Management Plan, Kepler-Bradley Complex Management Plan and Matanuska-Susitna Valley Small Lakes Management Plan (ADF&G *Unpublished b*).

The primary objective is to provide additional fishing opportunities in a cost effective manner on a sustainable basis by stocking lakes with game fish that are indigenous to Alaska. An additional objective is to reduce effort on the area's wild stocks and insure that stocking does not negatively impact wild stock genetics or other fisheries. All stocking is conducted in accordance with guidelines set forth in the Statewide Stocking Plan for Recreational Fisheries (ADF&G *Unpublished b*).

Stocked landlocked lakes fall under the maximum sustained yield management concept. Bag and possession limits under this management concept are five trout. Although stocked lakes are primarily managed for put-and-take fisheries, three stocked lakes (Long Lake in the Kepler/Bradley complex, Wishbone Lake, and X Lake) have been established for catch-and-release fishing. These three lakes require using unbaited artificial lures and are closed November 1 to April 30.

Recent Board of Fisheries Actions

There have been no recent BOF actions affecting stocked lakes. The next BOF meeting will be in 2005.

Current Issues

In the past 20 years the Mat-Su Valley population has increased enormously. Lakes that once had no surrounding population and very little use now are in the middle of subdivisions. Use of these lakes ranges from quiet wildlife viewing to loud jet skiing, with fishing falling somewhere in the middle. Increasing arguments concerning noise and boat wakes between lakefront owners and other users led to the creation of Mat-Su Borough Lake Management Plans for a number of Mat-Su Valley lakes (Appendix P1). These plans are created during a public meeting process and determine the prohibited activities for each lake. As the population continues to increase we can expect an increase in the number of these management plans that limit use of the lakes. One of the elements of many of these plans is to install a gate to limit public access to certain hours. This has caused numerous complaints about the gates being left locked continuously and not allowing access.

Table 49.-Statewide Harvest Survey estimated harvest and catch for NCIMA stocked lakes, 2002.

Lake	Angler-days	% of Total Effort	Landlocked Salmon			Arctic Char			Rainbow Trout			Arctic Grayling			Northern Pike			Total Catch	Total Harvest	% Harvest
			Catch	Harvest	% Harvest	Catch	Harvest	% Harvest	Catch	Harvest	% Harvest	Catch	Harvest	% Harvest	Catch	Harvest	% Harvest			
2002																				
Barley	199	0.7%							1,904	182	10%							1,904	182	10%
Benka	785	2.8%				643	439	68%	388	170	44%							1,031	609	59%
Bench	44	0.2%							108	24	22%							108	24	22%
Beverly	105	0.4%							752	436	58%							752	436	58%
Big Beaver	70	0.3%							132	59	45%							132	59	45%
Bradley	223	0.8%							594	24	4%							594	24	4%
Brockner	14	0.1%																0	0	0%
Bruce	281	1.0%							230	61	27%							230	61	27%
Canoe	234	0.8%							1,613	315	20%	584	0	0%				2,197	315	14%
Carpenter	145	0.5%							73	24	33%							73	24	33%
Christiansen	315	1.1%							274	131	48%							274	131	48%
Coyote	72	0.3%							279	0	0%							279	0	0%
Cranberry	29	0.1%							48	48	100%							48	48	100%
Crystal	23	0.1%							242	0	0%							242	0	0%
Diamond	254	0.9%	69	0	0%				304	121	40%							373	121	32%
Echo	82	0.3%							48	0	0%							48	0	0%
Eska	1,043	3.8%							1,164	558	48%							1,164	558	48%
Farmer	29	0.1%							364	61	17%							364	61	17%
Finger	6,374	23.0%	10,644	5,334	50%	322	156	48%	8,270	4,790	58%	337	156	46%	146	20	14%	19,719	10,456	53%
Florence	152	0.5%							679	97	14%	208	26	13%				887	123	14%
Homestead	598	2.2%							509	509	100%							509	509	100%
Honeybee	70	0.3%							121	121	100%							121	121	100%
Ida	47	0.2%							315	121	38%	389	0	0%				704	121	17%
Irene	187	0.7%				97	39	40%	861	48	6%							958	87	9%
Kalmbach	567	2.0%	514	440	86%				586	274	47%							1,100	714	65%
Kashwitna	101	0.4%							24	0	0%							24	0	0%
Kepler	999	3.6%							3,201	764	24%	13	0	0%				3,214	764	24%
Knik	1,256	4.5%	814	669	82%				1,743	788	45%	208	117	56%				2,765	1,574	57%
Knob	23	0.1%							61	61	100%							61	61	100%
Lalen	29	0.1%							73	24	33%							73	24	33%
Little Beaver	82	0.3%							79	39	49%							79	39	49%
Little Lonely	176	0.6%							630	158	25%							630	158	25%
Loberg	164	0.6%							849	61	7%							849	61	7%
Long (K/B)	457	1.7%							1,285	0	0%							1,285	0	0%
Long (Mile 86)	2,015	7.3%				3,291	462	14%	6,591	1,870	28%							9,882	2,332	24%
Lorraine	533	1.9%							1,659	509	31%	649	65	10%				2,308	574	25%
Lucille	1,397	5.0%							5,142	887	17%							5,142	887	17%
Lynne	94	0.3%				29	29	100%	73	73	100%							102	102	100%
Marion	202	0.7%				68	68	100%	835	386	46%							903	454	50%
Matanuska	1,025	3.7%	1,024	393	38%				2,483	919	37%							3,507	1,312	37%
Meirs	47	0.2%							485	121	25%	26	26	100%				511	147	29%
Memory	1,254	4.5%	138	138	100%				1,891	594	31%				50	30	60%	2,079	762	37%
Mile 180	26	0.1%							488	131	27%	208	0	0%				696	131	19%
Prator	270	1.0%	115	115	100%				61	61	100%				209	209	100%	385	385	100%
Ravine	1,447	5.2%							2,601	1,345	52%							2,601	1,345	52%
Reed	99	0.4%							182	85	47%							182	85	47%
Rocky	174	0.6%							400	291	73%							400	291	73%
Ruby	58	0.2%							206	73	35%							206	73	35%
Seventeenmile	234	0.8%				68	0	0%	667	170	25%							735	170	23%
Seymour	105	0.4%							255	24	9%							255	24	9%
South Rolly	1,262	4.6%							1,535	436	28%				229	80	35%	1,764	516	29%
Tanaina	23	0.1%							12	12	100%				20	0	0%	32	12	38%
Tigger	74	0.3%							133	61	46%							133	61	46%
Twelvemile	35	0.1%							182	24	13%							182	24	13%
Twin Island	59	0.2%							73	48	66%							73	48	66%
Victor	29	0.1%	390	230	59%													390	230	59%
Visnaw	369	1.3%							532	85	16%							532	85	16%
Walby	1,304	4.7%							2,060	318	15%							2,060	318	15%
Weiner	142	0.5%							548	378	69%	73	52	71%				621	430	69%
Willow	175	0.6%							107	46	43%							107	46	43%
Wolf	14	0.1%																0	0	0%
X & Y	117	0.4%							827	59	7%							827	59	7%
2002 TOTALS	27,695	100%	13,708	7,319	53%	4,518	1,193	26%	57,004	19,016	33%	2,695	442	16%	654	339	52%	79,406	28,368	36%

Table 50.-Northern Cook Inlet Management Area recreational catch and harvest of rainbow trout by management unit as estimated by SWHS, 1977-2002.

Year	Northern Cook Inlet Management Area										Southcentral Region		Statewide	
	Knik Arm		Eastside Susitna		Westside Susitna		West Cook Inlet		Total					
	Catch ^a	Harvest	Catch ^a	Harvest	Catch ^a	Harvest	Catch ^a	Harvest	Catch ^a	Harvest	Harvest	% NCIMA	Number	% NCIMA
1977		18,615		5,225		7,472		958		32,270	80,345	40.2	94,307	34.2
1978		23,139		5,930		12,295		723		42,087	107,243	39.2	120,231	35.0
1979		24,843		9,463		12,555		1,063		47,924	129,815	36.9	139,390	34.4
1980		29,368		6,715		12,785		560		49,428	126,686	39.0	153,476	32.2
1981		41,749		8,813		11,296		1,734		63,592	149,460	42.5	178,613	35.6
1982		30,549		7,536		11,465		398		49,948	142,579	35.0	173,242	28.8
1983		26,421		9,639		9,253		871		46,184	141,705	32.6	168,677	27.4
1984		26,418		7,656		8,079		748		42,901	128,649	33.3	170,117	25.2
1985		46,431		7,872		8,114		902		63,319	142,316	44.5	181,991	34.8
1986		27,690		8,061		6,668		223		42,642	114,873	37.1	152,855	27.9
1987		24,663		6,647		8,020		579		39,909	101,397	39.4	138,698	28.8
1988		58,609		7,622		8,058		673		74,962	155,960	48.1	241,831	31.0
1989		44,518		4,972		4,928		544		54,962	127,444	43.1	209,961	26.2
1990	98,720	30,699	21,806	5,008	33,510	3,960	3,115	472	157,151	40,139	122,987	32.6	191,809	20.9
1991	88,645	39,636	26,329	7,854	46,870	4,526	1,756	497	163,600	52,513	127,492	41.2	205,642	25.5
1992	85,331	27,995	19,915	3,948	23,621	2,028	1,448	190	130,315	34,161	97,730	35.0	139,973	24.4
1993	69,635	21,565	24,240	3,713	29,911	2,481	1,788	191	125,574	27,950	82,312	34.0	136,681	20.4
1994	70,255	22,446	23,619	3,658	25,157	2,526	871	225	119,902	28,855	76,384	37.8	112,261	25.7
1995	56,108	14,878	15,363	3,138	23,432	1,757	1,222	111	96,125	19,884	74,972	26.5	112,681	17.6
1996	80,757	21,780	24,808	2,510	33,603	1,924	1,696	439	140,864	26,653	84,573	31.5	136,482	19.5
1997	85,278	25,695	34,742	2,324	30,217	1,452	2,371	618	152,608	30,089	67,261	44.7	100,372	30.0
1998	66,837	17,693	26,241	968	17,370	1,081	1,576	189	112,024	19,931	56,728	35.1	103,744	19.2
1999	84,691	24,527	39,753	1,755	37,864	1,866	2,617	277	164,925	28,425	77,707	36.6	132,481	21.5
2000	114,013	28,745	42,603	1,521	29,398	1,226	2,793	211	188,807	31,703	89,171	35.6	144,873	21.9
2001	70,821	21,061	32,904	1,112	27,697	759	3,341	270	134,763	23,202	57,629	40.3	81,279	28.5
1977-2001														
mean	80,924	28,789	27,694	5,346	29,888	5,863	2,050	547	140,555	40,545	106,537	38.1	148,867	27.2
1997-2001														
mean	84,328	23,544	35,249	1,536	28,509	1,277	2,540	313	150,625	26,670	69,699	38.5	112,550	24.2
2002	93,520	28,325	80,190	1,751	29,745	1,209	3,082	236	206,537	31,521	73,542	42.9	117,063	26.9

From: Mills 1979-1994, Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003, Jennings et al. *In prep* a and b.

^a Catch estimates available beginning in 1990.

Because warm water previously supplied by a nearby power plant has been cut off, area hatcheries are changing from warm to cold water facilities and are no longer providing catchable size rainbow trout for stocking. The number of fingerling stocked has been increased but may not be able to provide the quality fishing people have become accustomed to.

Ongoing Research and Management Activities

In 2003, the evaluation of current stocked lakes for abundance and size and age composition of stocked fish, plus the evaluation of new lakes for possible stocking continued with 17 lakes. Data collected are used to evaluate stocking plans and update the Matanuska-Susitna Valley Lakes fishing forecast.

Recommended Research and Management Activities

Current levels of stocking within the NCIMA should not increase significantly during the next several years. With increased development in the Matanuska Susitna Valley, additional barren landlocked lakes should be stocked as legal access becomes available. Substantial effort should be directed toward increasing angler participation at stocked lakes by improving the public's awareness of available fishing opportunities. Annual updating of the area's stocked lakes brochure and expanded distribution of this popular pamphlet may help. An additional objective of the program should be to improve and maintain public access, parking, and signing at stocked lakes.

All stocked lakes should continue to be evaluated on a rotational basis. When coupled with public input, these data provide the basis for modifying stocking strategies and providing fishing information to the public. In 2004, an emphasis will be placed on lakes containing northern pike in order to evaluate their effect on stocked fish and to determine an efficient stocking strategy.

Assessment of the cost effectiveness of various stocking strategies through use of harvest and effort estimates made available in the SWHS should be continued.

Updating stocking history and harvest numbers is an ongoing process. Additionally, public handouts need to be constructed for more lakes that have public access and support recreational fishing opportunities.

RAINBOW TROUT FISHERIES

Background and Historical Perspective

NCIMA rainbow trout harvests have ranged from 19,884 to 74,962 fish and averaged 40,545 fish during the years 1977 through 2001 (Mills 1979-1994, Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003 and Jennings et al. *In prep a*) (Table 50). This harvest accounts for 38% and 27% of the average harvest within Region II and the state, respectively. Rainbow trout harvested from the Knik Arm Management Unit during this time period accounted for approximately 70% of the total NCIMA harvest. A large percentage of this is a result of the stocked lakes program. The Westside Susitna and the Eastside Susitna Management units have accounted for 15% and 13% of the NCIMA harvest, respectively, with the West Cook Inlet Management Unit accounting for the remainder. Several lake and riverine populations of rainbow trout in the Westside Susitna Management Unit have been severely impacted by northern pike predation (Rutz 1999). Since 1990 the SWHS has estimated the catch of rainbow trout. From 1990-2001 the average catch in the NCIMA was 140,555 (Mills 1991-1994,

Howe et al. 1995, 1996, 2001 a-d, Walker et al. 2003 and Jennings et al. *In prep a*) (Table 50). The Knik Management Unit dominates the catch.

The Board of Fisheries attempted for several years to accommodate a wide array of individual requests for regulatory reform to provide for conservative rainbow trout management. In 1984 they determined that a comprehensive trout policy was needed. In 1985 and 1986, a 13-member citizen planning team working with the department and the angling community developed a draft management policy. During the fall of 1986, the Board of Fisheries officially adopted this plan as a management policy for Cook Inlet and Copper River rainbow trout. The policy provides a systematic approach for selecting fishery regulations as well as a process for rational identification of waters for special management (ADF&G 1986). The Board of Fisheries used the policy from 1986-1996 to implement regulations for rainbow trout within the NCIMA (Whitmore and Sweet 1998). In November 1996 the BOF adopted the Criteria for Establishing Special Management for Trout to replace the Cook Inlet and Copper River Rainbow/Steelhead Trout Management Policy (5 AAC 75.013) for use in instituting regulations.

Even before the policy was developed, the management of Susitna River trout was becoming conservative. Bag and possession limits, for example, were 10 rainbow trout prior to 1982. Beginning in 1982 the bag and possession limits dropped to five rainbow trout of which only two could be 20 inches or more in length. In 1983 the limit was further reduced to allow just one fish 20 inches or more in length. Starting in 1987 and continuing to the present, all streams within the Susitna River drainage have been regulated according to the conservative yield concept of the rainbow trout plan. This management concept strives to maintain historical size and age compositions and abundance levels for wild trout. Bag and possession limits under this concept are two trout, of which only one may be 20 inches or more in length. This management strategy also requires the use of unbaited artificial lures in all flowing waters from September 1 through May 15 to enhance survival of released fish at the time when trout are often a targeted species. During 1997 all eastside Susitna River tributaries were restricted to a single-hook artificial lure upstream of the Parks Highway. This regulatory scheme attempts to allow a modest portion of the annual trout production be removed from most populations while the rest are recycled.

The majority of Cook Inlet rainbow trout fisheries is additionally managed under a seasonal limit of two rainbow trout over 20 inches. To assure compliance with this regulation, anglers must, immediately upon harvesting a trout over 20 inches, record that harvest on the back of their license or on a harvest record card.

A major portion of the Eastside Susitna Management Unit has been managed for trophy-size trout (trout over 20 inches) since 1987. This fishery encompasses all drainages of the Susitna River from the junction of the Susitna and Talkeetna rivers upstream to Devils Canyon. Under this strategy, only one trout 20 inches or more in length is allowed daily with a two trout over 20 inches seasonal limit. Small trout must be released immediately. An unbaited, single-hook lure requirement complements this strategy.

The Talachulitna River became Alaska's first catch-and-release trout fishery in 1977. Beginning in 1987 catch-and-release strategies were initiated in most of the Lake Creek drainage, much of the Deshka River, and the Fish Creek drainage located within the Talkeetna River drainage. In 1993 catch-and-release regulations were established for the North Fork of the Kashwitna River and in 1996 Willow and

Montana creeks joined the growing list of catch-and-release streams. Unbaited, single-hook lures are mandatory in all catch-and-release waters. Catch-and-release strategies were adopted to perpetuate quality fishing rather than protect or rebuild depressed stocks (Engel and Vincent-Lang 1992).

Stocked landlocked lakes fall under the maximum sustained yield management concept. Bag and possession limits under this management concept are five trout. Although stocked lakes are primarily managed for put-and-take fisheries, three stocked lakes (Long Lake in the Kepler/Bradley complex, Wishbone Lake, and X Lake) have been established for catch-and-release fishing. These three lakes require using unbaited artificial lures and are closed November 1 to April 30.

Wild trout are not supplemented with hatchery trout in the Susitna River drainage. Public testimony during the development of the rainbow trout plan suggested little interest in the use of hatchery fish to augment wild stocks. In fact, many participants in the planning process expressed strong opposition to any hatchery assistance for wild Susitna River trout.

A description of the Susitna River drainage as well as a discussion of access routes within the area have previously been presented in overviews pertaining to Susitna River chinook salmon fisheries.

According to the SWHS, the harvest of Susitna River (Eastside and Westside Susitna Management Units) rainbow trout has averaged 2,813 fish during the period 1997 through 2001. Approximately 55% of the trout harvest from the Susitna River drainage has been from Eastside Susitna Management Unit tributaries during this time (Table 50).

The Deshka River and Lake Creek generally provide the largest harvests among Westside Susitna Management Unit fisheries while the Talachulitna River and Lake Creek generally produce the largest catches (Appendix A49 and A50). Harvest of rainbow trout from the Eastside Susitna Management Unit streams is small (Appendix A47). Willow and Montana creeks produced the largest harvests until 1997, when they became catch-and-release streams.

Studies were conducted on rainbow trout stocks of the Deshka River, Lake Creek and Talachulitna River in 1989 and 1990 (Bradley 1990 and 1991), the Kashwitna River in 1991, Peters Creek in 1992 (Rutz 1992 and 1993) and the North Fork Kashwitna in 1996. Assessment of migration and the age and length characteristics of these stocks were the primary focus of these investigations. Onsite creel surveys were also conducted at Lake Creek during 1988 (Vincent-Lang and Hepler 1989) and 1989 (Bradley 1990). There were significant differences in age composition and mean length-at-age among Susitna River tributaries sampled during 1989-1992 (Rutz 1992 and 1993). Rainbow trout tagged during 1991 and 1992 indicated low numbers of trout over 510 mm in length, the size limit for trophy trout defined in the Criteria for Establishing Special Management for Trout. This lack of adequately sized fish, combined with the relatively slow growth rate of Susitna River basin trout in comparison to other Alaskan waters containing trophy trout, suggests that these Susitna River rainbow trout stocks are not viable candidates for management as trophy fisheries (Rutz 1992).

Recent Fishery Performance

A harvest of 1,751 rainbow trout in 2002 for the Eastside Susitna management unit represents approximately 114% of the 1997-2001 mean harvest for this stock. The Westside Susitna management unit harvest of 1,209 fish represents approximately 100% of the 1997-2001 mean (Table 50).

The 2002 catch for the Eastside Susitna Management Unit was 80,190 fish, 230% of the 1997 through 2001 average of 35,249 fish (Table 50). Approximately 50,000 fish of the 2002 estimated catch is from Willow, Montana and Sheep creeks. The 2002 Westside Susitna Management Unit catch was 29,745, slightly above the 1997-2001 average of 28,509 fish (Table 50). During 1997-2001 less than 10% of the total rainbow trout catch in Eastside and Westside management units has been harvested (Tables 13 and 14).

In 1997 Willow and Montana creeks, previously the largest producers of rainbow trout harvest of the eastside Susitna River drainages, became no-retention fisheries. This accounted for a large portion of the drop in harvest for the Eastside Susitna Management Unit from previous years (Appendix A47). The catches for these two fisheries during 2002 were the highest recorded since 1990 indicating that the no-retention restrictions may be increasing the number of rainbow trout available to anglers (Appendix A48).

During 2002 an estimated 445 rainbow trout were harvested in Lake Creek, a Westside Susitna Management Unit fishery, from a catch of 11,622 fish (Appendices A49 and A50). The Deshka River, also a Westside Susitna tributary, yielded a rainbow trout harvest and catch of 417 and 4,464 fish, respectively. The Talachulitna River drainage, which is a catch-and-release only fishery, produced a catch of 6,283 rainbow trout. In 2002 the total rainbow trout catch in Susitna River fisheries was approximately double the 1997-2001 average.

The vast majority of the rainbow trout harvest in the Knik Arm Unit resulted from stocked lake fisheries (Appendix A45). These fisheries have been discussed previously in the Stocked Lake Fisheries section of this report.

Management Objectives

Management of Susitna basin rainbow trout through 1996 followed the guidelines set forth in the Cook Inlet and Copper River Basin Rainbow/Steelhead Trout Management Policy. Current management follows criteria stated in the Criteria for Establishing Special Management for Trout as adopted by the BOF in 1996.

Starting in 1987 and continuing to the present, all streams within the Susitna River drainage have been regulated according to the conservative yield concept of the rainbow trout plan. This management concept strives to maintain historical size and age compositions and abundance levels for wild trout. At this time the majority of Cook Inlet rainbow trout fisheries are managed under a seasonal limit of two rainbow trout over 20 inches.

Recent Board of Fisheries Actions (Including Other Resident Species)

In October 2001, the BOF established a task force in response to a wild trout initiative by Governor Knowles. The cornerstones of the initiative were aimed at ensuring the sustainability of Alaska's wild rainbow trout resources. After several meetings the task force developed a statewide wild trout management plan (to guide utilization of wild trout stocks) and a wild trout sustainable fisheries policy (to assure for the sustainability of wild trout stocks and their fisheries). Both the management plan and the fisheries policy were addressed at the March 2003 Board meeting. The plan and policy were amended to ensure the plan bases conservative management on conservative harvest opportunity while recognizing existing plans and policies that guide management on a regional basis. The plan provides for

liberal harvest opportunities when sufficient biological data exists to ensure optimum sustained yield is not jeopardized. The plan further provides for consumptive harvest of the resource.

The following regulations affecting rainbow trout were adopted by the BOF during the February 2002 meeting:

1. Allow beads fixed on line within 2 inches of fly, lure, or hook.
2. Clarify the single-hook regulation to mean one single hook.
3. In the East Fork of Chulitna, Theodore and Lewis rivers only one single-hook, unbaited artificial lure may be used January 1 through July 13. This regulation was made in conjunction with allowing a hook-and-release fishery for king salmon.

The next BOF meeting to address resident finfish is scheduled for 2005.

Current Issues

Issues concerning NCIMA wild rainbow trout include the need for evaluation of streams in the Susitna River drainage. Pressure from a growing human population continues to increase. It is essential to understand the population dynamics and migratory movements of rainbow trout within these systems to effectively manage this resource. Little information is available regarding the resident fish populations in most of these systems.

In October 2001, the BOF established a task force in response to a wild trout initiative by Governor Knowles. The cornerstones of the initiative were aimed at ensuring the sustainability of Alaska's wild rainbow trout resources. After several meetings the task force developed a statewide wild trout management plan (to guide utilization of wild trout stocks) and a wild trout sustainable fisheries policy (to assure for the sustainability of wild trout stocks and their fisheries). Both these documents were adopted at the March 2003 BOF meeting.

Ongoing Research and Management Activities

Catch and harvest trends for rainbow trout are measured by the SWHS.

Current fishery regulations for Susitna River rainbow trout stocks assume each tributary has a discrete stock, even though past studies suggest differently. In fall of 2003 a project was initiated to answer questions pertaining to seasonal distribution and stock definition of eastside Susitna rainbow trout. Radio transmitters were surgically implanted in rainbow trout on four major tributaries: Willow Creek, Kashwitna River, Montana Creek, and Talkeetna River. Rainbow trout will be traced for 1 year to identify major spawning stocks as well as overwintering and summering habitat. The results will meet the Division's priorities to: (1) sustain fisheries and conserve wild stocks based on scientifically sound assessments, (2) estimate the effects of regulatory options needed for dependable fisheries, and (3) better understand the relationships between the fish, the fishery, and the habitat. The specific objectives of the first phase are:

1. To detect, with 95% confidence, 15 spawning locations in the eastside tributaries of the Susitna River between and including Willow Creek and the Talkeetna River. Together the 15 locations receive at least 73% of the wild rainbow trout ≥ 400 mm fork length that summer in one of four tagging locations.

2. To detect, with 99% confidence, nine overwintering locations in the Susitna River and three of its major tributaries. Together the nine locations receive all of the wild rainbow trout ≥ 400 mm fork length that summer in one of four tagging locations.

Radiotagged rainbow trout will be located during the summer of 2004 provided enough transmitters are operational in live trout.

Recommended Research and Management Activities (Including Other Resident Species)

Abundance estimation and age composition research of rainbow trout in the Willow Creek drainage should continue on a 3- to 5-year cycle to determine the effects of current regulations. The findings of the 1997 and 1998 studies (Bartlett and Hansen 2000) will be compared with findings from the next research cycle to evaluate the effect of the current regulations.

The tag recovery and radiotagging programs should remain active to determine rainbow trout dispersal patterns within the eastside Susitna River drainages.

Available information for most resident fish species is limited to findings of the SWHS. An evaluation of Arctic char in Big Lake should be conducted. Harvest trends for Arctic char in Big Lake suggest a decline in abundance and little information on the species in Big Lake is available to area managers.

The SWHS catch and harvest estimates for Arctic grayling and Dolly Varden/Arctic char suggest harvest in excess of sustainable yield. Possible bag and possession limit changes for both species should be investigated. Information regarding Arctic grayling and Dolly Varden/Arctic char stock status should be collected during all resident fish projects.

The department should continue to participate in land and water use planning.

NORTHERN PIKE FISHERIES

Background and Historical Perspective

Northern pike are not indigenous to the NCIMA. They were illegally introduced into this area during the early 1950s. Since then, northern pike have been reported in more than 100 lakes and more than a dozen tributaries of the Susitna River (Appendix G). Prior to 1992 several of these lakes consistently produced northern pike in the trophy class range (greater than 40 inches for catch-and-release honorary certificates or 15 pounds) and it was common to find fish weighing up to 20 lb and fish occasionally weighing over 30 lb.

In 1977 when the SWHS was initiated the harvest of northern pike in the NCIMA numbered less than 200 fish. At that time NCIMA accounted for only 1% of the statewide harvest of northern pike (Mills 1979) (Table 51). Northern pike harvests slowly increased through 1983 when the harvest totaled less than 1,000 fish. Since 1984 the harvest of northern pike has greatly increased. The average harvest during 1984-1987 was 1,917 while 1988-1991 averaged 3,946 and 1992-1996 averaged 5,311 fish (Figure 21). As northern pike spread throughout the NCIMA anglers became more interested in them as a recreational fish, indicated by increasing harvest and catch estimates since 1991 (Table 51). With the exception of 1994 and 1995, all years since 1990 recorded harvests over 5,000 fish (Mills 1991-1994, Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003, Jennings et al. *In prep* a, b).

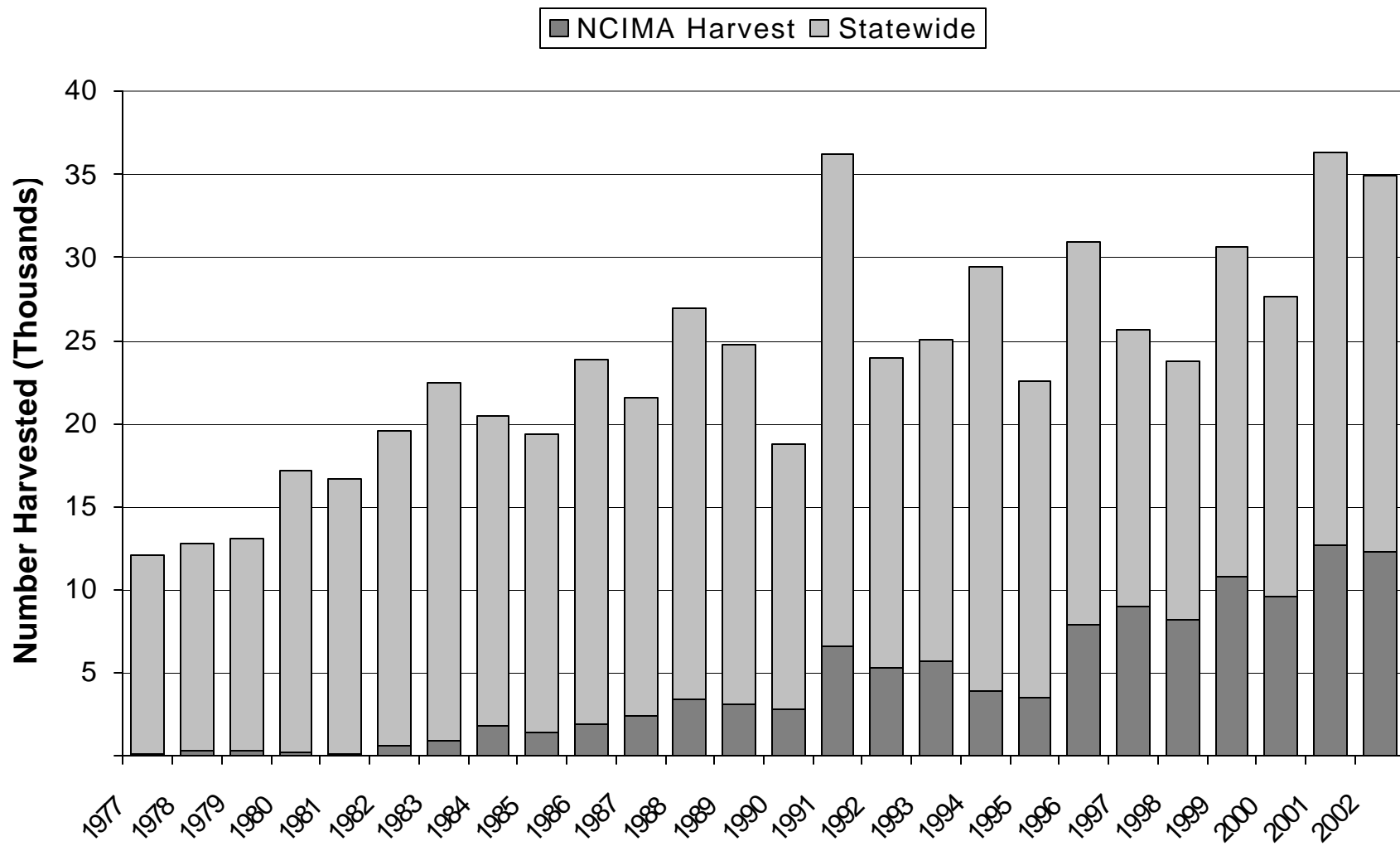
Table 51.-Northern Cook Inlet Management Area recreational catch and harvest of northern pike by management unit as estimated by SWHS, 1977-2002.

Year	Northern Cook Inlet Management Area ^a										Soutcentral Region		Statewide	
	Knik Arm ^b		Eastside Susitna		Westside Susitna		West Cook Inlet		Total					
	Catch ^c	Harvest	Catch ^c	Harvest	Catch ^c	Harvest	Catch ^c	Harvest	Catch ^c	Harvest	Harvest	% NCIMA	Number	% NCIMA
1977		0				132		0		132	321	41.1	11,982	1.1
1978		0				316		0		316	767	41.2	12,520	2.5
1979		0				382		0		382	762	50.1	12,741	3.0
1980		0				232		0		232	1,358	17.1	17,000	1.4
1981		0				125		0		125	1,411	8.9	16,536	0.8
1982		0				607		0		607	1,707	35.6	18,964	3.2
1983		0				944		0		944	2,642	35.7	21,476	4.4
1984		0				1,821		0		1,821	4,424	41.2	18,641	9.8
1985		156				1,248		0		1,404	2,240	62.7	17,943	7.8
1986		458				1,519		0		1,977	2,894	68.3	21,890	9.0
1987		924				1,540		0		2,464	4,839	50.9	19,079	12.9
1988		364				2,818		291		3,473	3,598	96.5	23,440	14.8
1989		863				2,257		0		3,120	4,434	70.4	21,659	14.4
1990	2,593	754			14,465	2,088		0	17,058	2,842	3,655	77.8	15,985	17.8
1991	7,021	2,709			11,193	3,931		0	18,214	6,640	8,704	76.3	29,611	22.4
1992	7,097	2,605			13,828	2,777		0	20,925	5,382	7,314	73.6	18,616	28.9
1993	10,141	2,102	0	0	24,077	3,619	19	0	34,237	5,721	7,131	80.2	19,366	29.5
1994	2,816	1,328	0	0	5,436	2,556	18	9	8,270	3,893	5,800	67.1	25,558	15.2
1995	825	522	0	0	15,414	3,024	0	0	16,239	3,546	5,323	66.6	19,006	18.7
1996	12,220	4,021	368	11	17,657	3,902	0	0	30,245	7,934	10,503	75.5	23,043	34.4
1997	9,137	4,858	795	95	16,266	4,026	75	45	26,273	9,024	10,489	86.0	16,603	54.4
1998	10,223	4,272	130	130	17,928	3,753	321	25	28,602	8,180	9,595	85.3	15,617	52.4
1999	14,231	6,785	441	260	14,348	3,686	334	93	29,354	10,824	13,327	81.2	19,766	54.8
2000	16,717	5,698	308	101	27,381	3,692	234	86	44,640	9,577	12,019	79.7	18,062	53.0
2001	15,457	6,544	776	55	25,147	5,479	1,042	661	42,422	12,739	16,673	76.4	23,623	53.9
1977-2001														
mean	9,040	1,799	313	72	16,928	2,259	227	48	26,373	4,132	5,677	61.8	19,149	20.8
1997-2001														
mean	13,153	5,631	490	128	20,214	4,127	401	182	34,258	10,069	12,421	81.7	18,734	53.7
2002	13,079	5,716	647	618	18,450	5,865	284	119	32,460	12,318	14,862	82.9	22,567	54.6

^a No reported catch or harvest from Eastside Susitna or West Cook Inlet management units until 1993.

^b Harvest of northern pike prior to 1985 may have been included in other fish species category.

^c Catch estimates available beginning in 1990.



Source: SWHS, Mills 1979-1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. *In prep* a, b.

Figure 21.-Estimated northern pike harvest from Northern Cook Inlet Management Area and statewide, 1977-2002.

The SWHS's first documented northern pike catch from the Eastside Susitna and WCI management units came in 1993; previously, other than public testimony, no information was available regarding northern pike catch or harvest from these areas. During 1997, for the first time the NCIMA pike harvest surpassed the Arctic-Yukon-Kuskokwim (AYK) area, previously the major producer of pike. The NCIMA catch of northern pike has yet to surpass the AYK catch.

Recent Fishery Performance

The NCIMA estimated harvest of northern pike during the 2002 season was 12,318 fish, approximately 20% more than the 1997-2001 mean and the largest harvest on record. The Knik and Westside Management units each accounted for just under half the harvest, with the remainder from the Eastside Susitna and WCI units (Table 51).

The NCIMA estimated catch of northern pike during 2002 was 32,460 fish. The Westside Susitna Management Unit and the Knik Management Unit contributed the majority of the catch (Table 51).

Management Objectives

The management objective for this fishery is to maximize harvest opportunity. The majority of the NCIMA does not have a bag or possession limit for northern pike.

In an effort to provide anglers the opportunity to catch large fish, in 1998 the BOF adopted a slot limit regulation for Alexander and Trapper lakes. The daily bag limits were set at: less than 22 inches in length no limit, 22-30 inches no retention, and over 30 inches 1 per day. The objective is to remove fish less than 22 inches in length from the population while protecting fish in the 22–30 inch range allowing them a chance to attain a larger size when they will again be available for harvest. In 2002 the slot limit was repealed for Trapper Lake. Alexander Lake will be closely monitored to evaluate the effectiveness of the slot limit regulation.

Recent Board of Fisheries Actions

During the February 2002 BOF meeting the following regulations concerning northern pike were adopted:

1. The use of five lines while ice fishing for pike apply to seven additional lakes in Northern Cook Inlet: Trapper Lake, Big No Luck Lake, Figure Eight Lake, Cabin Lake, Lower Vern Lake, Upper Vern Lake and Lockwood Lake.
2. On Trapper Lake, there is no longer a "slot limit" for pike; bait, multiple hooks, spears, and bow and arrow gear are now allowed. For the purposes of sport fishing, legal bow and arrow gear includes crossbows.
3. When fishing through the ice for pike, anglers may use two hooks on a single line, provided that both hooks are attached to one single piece of bait.

The next BOF meeting addressing resident species will be in 2005.

Current Issues

Northern pike are well known for their voracious appetites. Agencies in other states rely on stocking northern pike to control populations of undesirable species. In Alaska there is a growing concern by commercial fishermen, recreational anglers and fishery managers that northern pike predation on

chinook, coho and sockeye salmon, as well as rainbow trout, may adversely impact these stocks during a period in which they are subject to increasing harvest. Juvenile salmon stocks (primarily coho salmon) can be quickly eliminated by northern pike predation (Rutz 1996). In addition, we attribute the decimation of rainbow trout and grayling stocks within some of these systems to northern pike predation. Northern pike prefer soft rayed fish as a food source (Eklov and Garrin 1989). This was evident with northern pike sampled in the Deshka River, Hewitt, Moose, Indian and Witso creeks where sockeye salmon, rainbow trout and coho salmon juveniles were preferred over stickleback (Rutz 1996).

Although there are concerns regarding the impact on salmon and rainbow trout stocks as a result of northern pike predation, many recreational anglers welcome a healthy pike population as they provide increased recreational opportunities during the entire year. Throughout literature there is a history of overexploitation of northern pike due to increasing recreational harvests. Even though the northern pike sport fishery in Upper Cook Inlet is fairly new, the performance of this fishery already suggests overexploitation as evidenced by the decline in the number of large fish caught.

The following is a list of systems and lakes where we think native fish populations have been decimated by northern pike predation. Also included is a list of potential problem areas.

Susitna Drainage

Severely Depressed Systems

1. Fish Creek (Nancy Lake Canoe System). Probable reduction of sockeye and coho salmon along with more than 30 lake populations and one stream population of rainbow trout. Burbot and whitefish populations are probably also severely impacted.
2. Fish Creek (Kroto Slough). Probable reduction of sockeye and coho salmon, along with 7 or 8 lake populations and 1 stream population of rainbow trout and Arctic grayling. Burbot and whitefish populations are probably also severely impacted.
3. Fish Lake Creek (Yentna River). Probable reduction of sockeye and coho salmon, along with five lake populations and one stream population of rainbow trout and Arctic grayling. Burbot and whitefish populations are probably also severely impacted.
4. Donkey Lake (Yentna River). Probable reduction of sockeye and coho salmon, along with lake and stream populations of rainbow trout. Burbot and whitefish populations are also probably severely impacted.
5. Unnamed Creek Kutna Slough (Yentna River). Probable reduction of sockeye salmon and coho salmon, along with a lake population of rainbow trout. Burbot and whitefish populations are probably also severely impacted.
6. Alexander Lake and all inlet streams. Probable reduction of sockeye salmon, coho salmon and chinook salmon, along with lake and stream populations of rainbow trout and Arctic grayling. Burbot and whitefish populations are probably also severely impacted.

Moderately Depressed Systems

1. Indian Creek (Yentna River drainage). Probable reduction of the coho salmon and chinook salmon populations due to pike predation. Very few sockeye salmon are present in this system. Rainbow trout population may be less than half its pre-pike abundance.
2. Moose Creek (Yentna River drainage). Probable reduction of the coho salmon and chinook salmon populations due to pike predation. Very few sockeye salmon are present in this system. Rainbow trout population may be less than half its pre-pike abundance.
3. Bottle Creek (Yentna River drainage). Probable reduction of the coho salmon population due to pike predation. Very few sockeye or chinook salmon are present in this system. Rainbow trout population may be less than half its pre-pike abundance.
4. Whitso Creek (Susitna River). Probable reduction of the coho salmon population due to pike predation. Very few sockeye or chinook salmon are present in this system. Rainbow trout population may be less than half its pre-pike abundance.
5. Hewitt Creek. This system has two well-established lake populations and a well-established creek population of northern pike. Much of this system provides excellent pike rearing and spawning habitat. Coho salmon populations are probably heavily impacted by northern pike predation. Sockeye salmon are pelagic feeders in the two lakes, so they seldom come in contact with northern pike during their juvenile rearing period. However, as sockeye smolt migrate out of the lake they are vulnerable to pike predation in a 10-mile stretch of Hewitt Creek for a short period. Because of the large numbers of outmigrating smolt, and given they are only vulnerable to predation for a very short period, we estimate that losses are low. The rainbow trout have nearly disappeared from this system since pike arrived. Little is known about the status of the burbot or whitefish in this system.
6. Deshka River. Losses of sockeye salmon production to pike predation are probably very high for the Deshka River, as most of the production for this species is associated with the shallow water connecting lakes, which now contain well-established pike populations. Northern pike predation is probably responsible for loss of coho salmon production in this system, with most of this loss attributed to juvenile coho salmon that rear in side sloughs. Pike predation probably has very little effect on the chinook salmon population in the mainstem Deshka River, but tributaries such as Trappers, Noname and Chijuk creeks may have much higher losses. Rainbow trout and Arctic grayling populations in some of the connecting lakes have been severely reduced since the arrival of the northern pike, while stream populations are probably only moderately affected. We do not know what effect pike predation has had on the burbot population; however, we know that some populations have been decimated in shallow lake systems with well-established pike populations.
7. Alexander Creek. Losses are probably heavy for sockeye salmon as most of the production for this species is associated with the shallow water connecting lakes (Alexander, Trail, and Sucker lakes) that contain well-established pike populations. Coho populations are not affected to this degree. Much of the loss is to juvenile coho salmon that rear in the hundreds of side channels and sloughs. Again, pike predation probably has very little effect on the chinook salmon population in mainstem Alexander Creek, but tributaries such as Upper Sucker Creek and all streams above Alexander Lake probably suffered much higher losses as most of the system's pike population is

found in these waters. Rainbow trout and Arctic grayling populations in the connecting lakes have also been severely impacted, while stream populations are probably only moderately affected. We do not know what effect pike predation has had on the burbot population in this system.

Lightly Depressed Systems

1. Shell Lake. Very little pike habitat is present in this system and loss of salmonids due to pike predation is expected to be very small.
2. Lake Creek (Chelatna Lake). Chelatna Lake, along with one additional small lake system, contains the majority of Lake Creek's pike population. Very little pike habitat is present in this system and loss of salmonids due to pike predation is expected to be very small.

Potential Problems

1. Mama Bear and Papa Bear lakes (Talkeetna). Should northern pike become established in this system, it is probable that salmonid populations will be severely impacted, as much of this system is comprised of ideal spawning and rearing habitat for pike.
2. Caswell Creek. This system supports a fair amount of pike habitat, including several shallow water lakes. Should pike become well established in this system chinook and coho salmon numbers could be significantly reduced.
3. Rabideux Creek. This system supports a fair amount of pike habitat. Should pike become well established they might reduce chinook and coho salmon numbers.
4. Fifteen to 20 small shallow lake systems (Susitna River drainage). Slow moving tributaries that may be composed of one or more shallow lakes or ponds and support unknown populations of salmonids may have, or will be, seriously impacted by northern pike predation.

West Cook Inlet

Potential Problems

1. Three Mile River (Beluga). Given this system's ideal pike habitat it is probable that salmonid populations, specifically sockeye salmon, will be severely impacted by a growing pike population.

Knik Arm Drainages

Potential Problems

1. Jim Creek. This is a fairly large system that supports ideal pike habitat for both spawning and rearing. It is probable that the large coho and sockeye salmon and Dolly Varden populations will be severely impacted or completely decimated by pike predation should pike ever become established. In recent years there have been a few unconfirmed northern pike sightings.
2. Cottonwood Creek. Given this system's ideal pike habitat it is probable that coho and sockeye salmon populations along with rainbow trout populations will be severely impacted by pike predation should they become established. There have been several documented northern pike sightings in one of the connecting lakes to this system.

3. Big Lake System (Fish Creek/Meadow Lakes). Only small portions of Big Lake support ideal pike habitat; therefore, existing salmonid populations from Big Lake are not expected to be severely impacted by pike habitation. However, the Meadow Creek drainage which flows into Big Lake does support a great deal of pike habitat and salmonid populations from this system may be severely impacted should pike ever become well established. Northern pike have been documented in one lake of this system and unconfirmed sightings were reported on two others.
4. Little Susitna River. This system supports little northern pike habitat indicating minimal impact to salmonid populations resulting from northern pike predation. Some of the smaller lake systems draining into the Little Susitna River may be severely impacted, but these small lake systems collectively account for a small portion of the overall salmon production for this system.

Overall, northern pike have been destructive to the salmonid resource of the Susitna River drainage. To date there are more than 90 lakes and nearly 50 river systems in the Mat-Su Valley and Anchorage areas that are thought to be inhabited by pike. Though pike have taken their toll on these waters, it is believed that the pike populations throughout the Susitna River drainage may be reaching a point of stability. If pike begin to colonize other systems such as Jim Creek, Big Lake and Cottonwood Creek, we can expect to see large losses in salmonid production.

In shallow lake systems pike have wiped out existing native fish species. Recolonization of native species is highly unlikely. With no species of fish left in these lakes other than pike it may be wise to manage these populations more conservatively, whereby allowing fishermen the opportunity to harvest larger sized pike. However, in flowing waters, pike continue to prey on salmonid populations and current liberal management strategies should remain in effect.

Ongoing Research and Management Activities

Age, sex and size information are collected from Alexander Lake northern pike during May to measure the effect of the slot limit regulation adopted prior to the 1999 season. These data will need to be collected for several more years before any conclusions can be drawn.

As anglers report pike in a lake or stream where they have not previously been seen staff is sent to sample the waters to document their presence.

Recommended Research and Management Activities

The recent report of northern pike harvest in Jim Creek should be investigated further. An intense netting program should be undertaken first to locate the pike and then to eradicate as many as possible.

Stocked lakes that have reported pike populations should be sampled to determine the size of the population and its effect on the stocked fish. This will help determine if stocking should continue in a specific lake, or the size or species of fish that can be successfully stocked.

Age, sex and size information should be collected from Alexander Lake northern pike annually in the spring to determine the effect of the slot limit regulation adopted prior to the 1999 season.

Northern pike distribution and dietary preference should continue to be monitored in selected Susitna drainage waters with major emphasis on the Deshka River.

Northern pike in the Deshka River drainage should be radiotagged and monitored until the batteries expire.

ACKNOWLEDGMENTS

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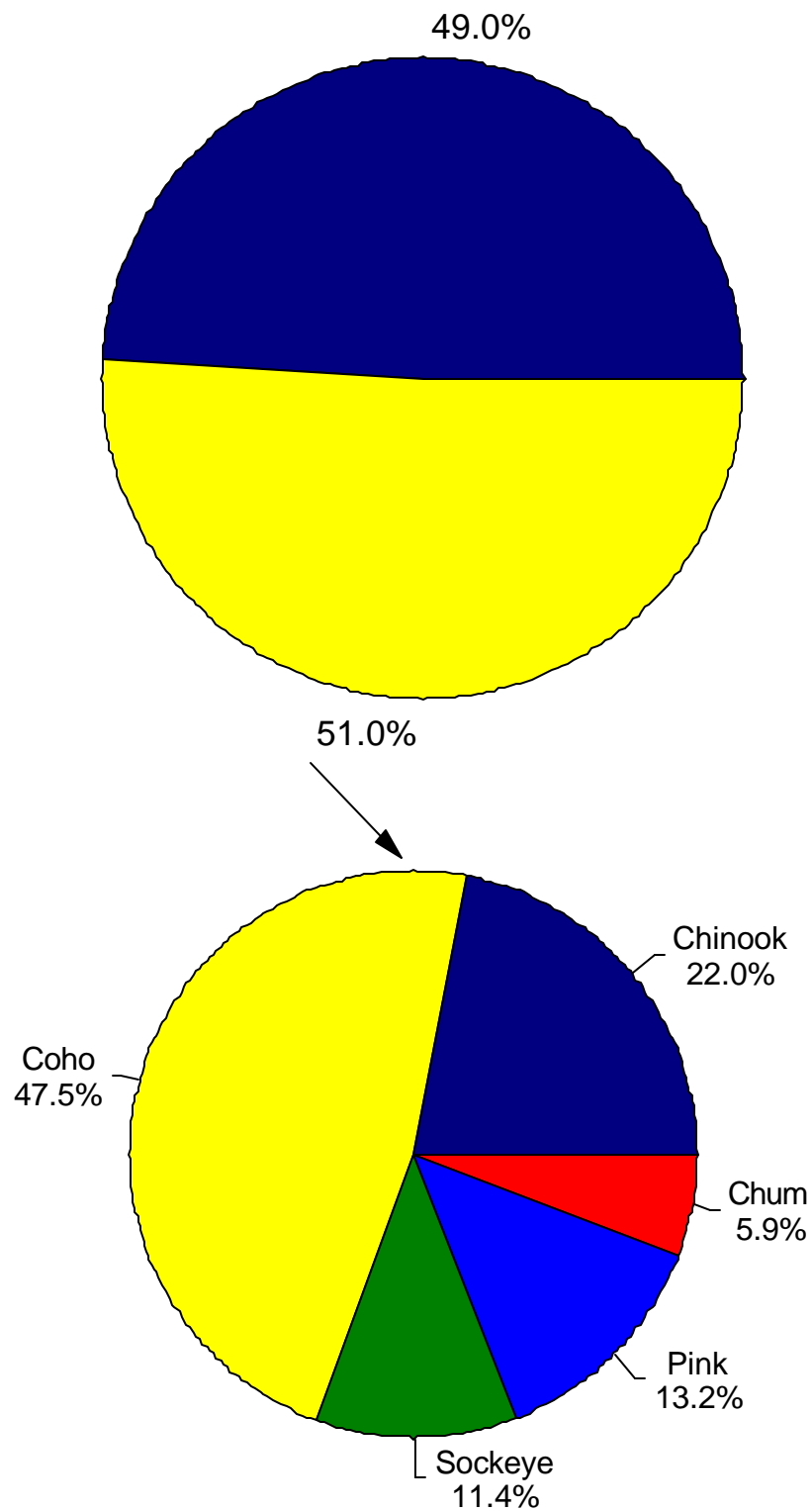
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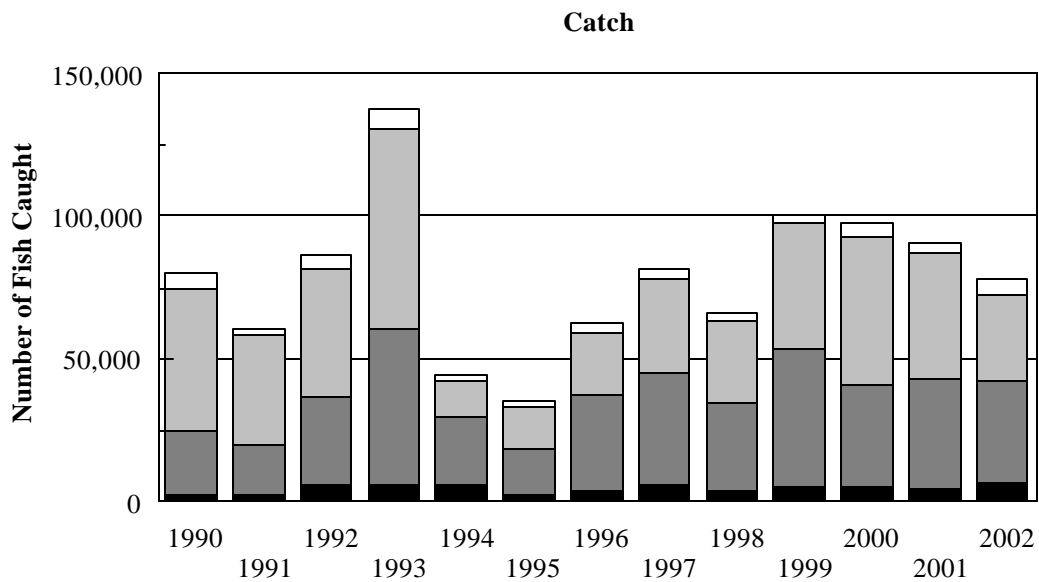
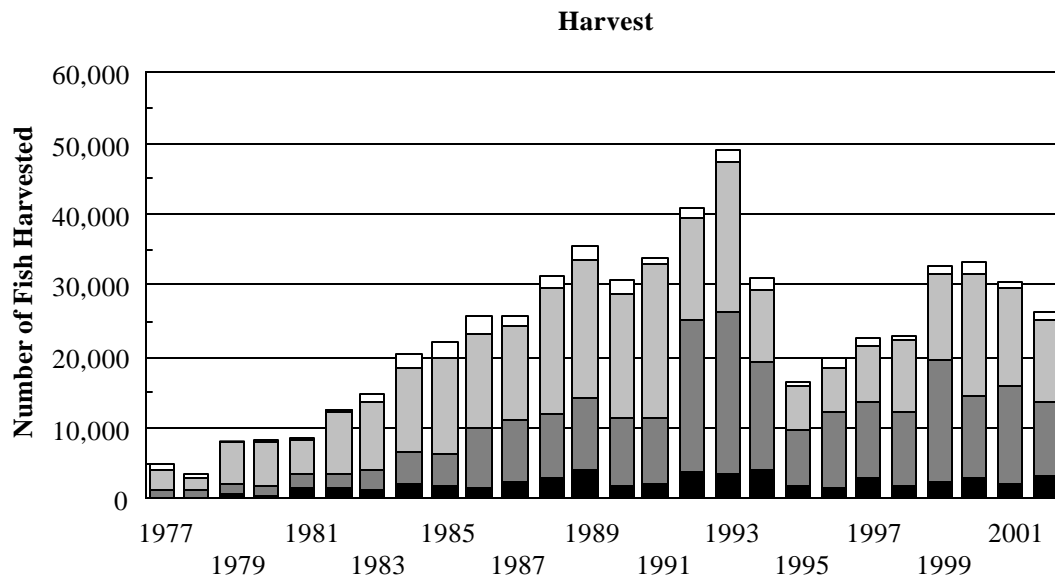
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APPENDIX A



Appendix A1.-Northern Cook Inlet Management Area sport fish harvest anadromous salmon composition, 1977-2003.



■ Knik Arm Drainage ■ East Susitna Drainage
 ■ West Susitna Drainage □ West Cook Inlet Drainage

Appendix A2.-Northern Cook Inlet Management Area recreational chinook salmon harvest and catch, 1977-2002.

Appendix A3.-Knik Arm drainage chinook salmon harvest by fishery, 1977-2002.

Year	Fish Ck. Marine	Other Marine ^a	Little Susitna	Knik River ^b	Eklutna Tailrace	Wasilla Creek	Cottonwood Creek	Big Lake ^c	Other ^d	Total
1977			191			0			16	207
1978			93			47			0	140
1979			800			0	0		0	800
1980			646			0	0		0	646
1981			1,418	0		0	0		48	1,466
1982			1,467	0		0	0		199	1,666
1983	16	47	1,187	5		0	0		0	1,255
1984	125	24	1,883	0	0	0	0		25	2,057
1985			1,845	0	0	0	0	44	0	1,889
1986		50	1,457	0	0	0	0	0	17	1,524
1987	117	58	2,282	0	0	0	0	19	0	2,476
1988	0	0	2,822	0	0	66	0	0	28	2,916
1989	77	44	4,204	0	0	16	0	0	0	4,341
1990	28	23	1,965	0	0	6	0	0	0	2,022
1991	129	23	2,102	0	0	17	0	6	0	2,277
1992	16	8	3,920	0	0	9	0	0	16	3,969
1993	104	48	3,441	0	0	9	0	0	0	3,602
1994	0	20	4,204	0	0	0	0	0	79	4,303
1995		9	1,698	0	0	0	0	0	0	1,707
1996		42	1,484	0	0	0	0	0	53	1,579
1997		0	2,938	0	0	0	0	0	0	2,938
1998		0	2,031	0	0	0	0	0	0	2,031
1999		11	2,713	0	0	0	0	0	0	2,724
2000		0	2,802	0	0	0	0	0	22	2,824
2001		12	2,243	0	0	0	0	0	0	2,255
1997-2001										
Mean		5	2,545	0	0	0	0	0	4	2,554
2002		41	3,144	0	0	10	0	0	0	3,195

^a Beginning in 1995 includes all marine.

^b Knik River and tributaries including Jim Creek.

^c Big Lake drainage streams.

^d Includes lakes and streams.

Appendix A4.-Knik Arm drainage chinook salmon catch by fishery, 1990-2002.

	Fish Ck.	Other	Little	Knik	Eklutna	Wasilla	Cottonwood	Big		
Year	Marine	Marine ^a	Susitna	River ^b	Tailrace	Creek	Creek	Lake ^c	Other ^d	Total
1990	40	29	3,069	0	0	12	0	0	90	3,240
1991	129	102	3,012	0	0	17	0	45	6	3,311
1992	16	17	6,484	0	0	48	0	9	16	6,590
1993	218	58	6,223	0	0	189	0	0	9	6,526
1994	0	20	5,993	0	0	0	0	0	129	6,142
1995		66	2,705	0	0	0	0	0	0	2,771
1996		42	3,639	0	0	0	0	0	64	3,745
1997		0	6,668	0	0	0	0	0	66	6,668
1998		0	3,785	0	0	0	0	0	0	3,785
1999		11	4,995	0	0	0	0	0	84	5,090
2000		0	5,436	0	0	0	0	0	78	5,514
2001		12	4,726	0	0	0	0	0	0	4,738
1997-2001										
Mean		5	5,122	0	0	0	0	0	46	5,159
2002		145	6,473	0	71	130	0	0	35	6,854

^a Beginning in 1995 includes all marine.

^b Knik River and tributaries including Jim Creek.

^c Big Lake drainage streams.

^d Includes lakes and streams.

Appendix A5.-Eastside Susitna River drainage chinook salmon harvest by fishery, 1977-2002.

Year	Willow Creek	Lt. Willow Creek	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River ^a	Other ^b	Total
1977	137	16			259		415			25	204	1,056
1978	47	0			256		408			12	163	886
1979	459	0		156	10		312		10	312	39	1,298
1980	289	32		215	45		559		13	172	45	1,370
1981	585	0		249	0		661		57	373	277	2,202
1982	629	0		471	0		241		52	450	220	2,063
1983	534	0	231	272	0		504		105	934	272	2,852
1984	774	37	0	586	0	0	1,522		125	1,272	112	4,428
1985	1,063	25		527	0		979		771	871	106	4,342
1986	1,017	872	73	327	1,778	145	2,796	290	327	908	36	8,569
1987	1,987	711	116	88	1,610	334	1,726	44	319	1,639	29	8,603
1988	2,349	937	0	578	1,847	218	1,070	28	303	1,762	47	9,139
1989	2,846	507	11	357	1,116	385	1,708	28	368	2,372	85	9,783
1990	3,237	387	6	330	1,537	504	478		465	2,358	121	9,423
1991	3,208	684	41	305	1,519	288	575	47	230	2,025	161	9,083
1992	8,884	1,023	16	592	2,663	1,033	3,078	101	365	3,338	214	21,307
1993	8,626	1,200	38	531	2,300	633	4,054	9	280	4,729	288	22,688
1994	5,980	745	78	562	1,349	361	3,111	108	297	2,144	235	14,970
1995	2,742	436	18	397	746	226	1,004	0	132	2,126	45	7,872
1996	2,690	896	21	128	1,397	437	1,612	22	53	3,585	182	11,023
1997	3,135	699	10	30	550	298	2,181	30	53	3,800	203	10,989
1998	2,793	546	15	226	700	348	1,471	83	116	3,846	328	10,472
1999	4,988	1,344	83	142	2,558	371	3,279	134	11	3,701	264	16,875
2000	3,782	578	160	561	851	258	1,728	223	472	2,740	421	11,774
2001	4,573	941	74	238	1,420	160	2,646	65	93	2,866	428	13,504
1997-2001												
Mean	3,854	822	68	239	1,216	287	2,261	107	149	3,391	329	12,723
2002	3,591	580	217	115	928	403	2,026	35	38	2,616	146	10,695

^a Talkeetna River and tributaries including Clear Creek.

^b Includes lakes and streams.

Appendix A6.-Eastside Susitna River drainage chinook salmon catch by fishery, 1990-2002.

Year	Willow Creek	Lt. Willow Creek	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River ^a	Other ^b	Total
1990	7,551	762	51	1,408	3,333	1,008	1,098		749	5,633	484	22,077
1991	5,267	886	75	420	2,421	725	1,766	80	351	4,215	368	16,574
1992	12,609	1,472	127	948	3,134	1,136	4,650	86	518	5,273	568	30,521
1993	21,555	2,710	88	830	4,412	1,482	9,305	37	461	12,205	1,183	54,268
1994	8,978	1,494	107	767	1,974	609	4,931	162	420	4,088	455	23,985
1995	4,897	905	91	519	1,323	422	2,226	0	245	5,464	284	16,376
1996	8,024	2,507	53	309	2,753	1,067	3,692	64	128	14,798	331	33,726
1997	9,982	1,608	59	123	1,924	893	7,173	79	252	15,904	940	38,937
1998	9,765	1,670	36	411	1,906	700	3,749	154	140	11,863	871	31,265
1999	15,913	3,505	105	379	4,815	928	8,428	167	208	13,030	922	48,400
2000	15,208	1,567	190	1,074	1,912	904	3,378	596	890	8,090	1,612	35,421
2001	12,144	2,621	156	565	2,789	383	7,298	549	227	10,311	1,547	38,590
1997-2001												
Mean	12,602	2,194	109	510	2,669	762	6,005	309	343	11,840	1,178	38,523
2002	11,160	2,220	348	268	3,284	1,119	6,127	89	175	9,653	1,151	35,594

^a Talkeetna River and tributaries including Clear Creek.

^b Includes lakes and streams.

Appendix A7.-Westside Susitna River drainage chinook salmon harvest by fishery, 1977-2002.

Year	Alexander Creek	Deshka River	Rabideux Creek	Yentna River	Peters Creek	Lake Creek	Fish Creek ^a	Talachulitna River	Other Streams ^b	Other Lakes ^b	Total
1977	820	1,017				464		224	413	0	2,938
1978	769	850				326		12	82	0	2,039
1979	712	2,811				1,796		293	156	0	5,768
1980	1,438	3,685				775		121	129	0	6,148
1981	1,121	2,769				795		57	0	0	4,742
1982	2,506	4,307				1,645		0	115	0	8,573
1983	1,711	4,889				2,423		336	209	0	9,568
1984	2,107	5,699			112	2,881		424	709	174	12,106
1985	2,761	6,407				2,575		224	1,677	0	13,644
1986	2,937	6,490				2,134	647	201	948	45	13,402
1987	2,224	5,632				3,282	834	116	1,252	10	13,350
1988	4,687	5,474			549	2,784	729	909	829	9	15,970
1989	4,882	8,062	12	215	339	3,554	1,202	403	656	18	19,343
1990	5,119	6,161	55	178	385	3,423	740	709	631	24	17,425
1991	6,548	9,306		301	495	2,712	660	848	942	24	21,836
1992	4,124	7,256	23	652	655	3,668	879	445	867	168	18,737
1993	5,154	5,682		653	283	6,425	1,148	875	922	0	21,142
1994	3,070	624		402	202	3,548	930	927	545	0	10,248
1995	1,217	0		425	252	2,838	545	509	479	0	6,265
1996	1,005	11		320	74	2,587	415	697	770	0	5,879
1997	1,470	42		315	34	3,777	557	778	826	0	7,799
1998	1,275	3,384		350		2,511	840	563	793	0	9,716
1999	2,241	3,496		939	197	3,037	1,188	977	56	0	12,131
2000	2,721	7,076		838	236	4,611	742	695	422	0	17,341
2001	2,313	5,007		648	88	4,067	965	409	417	0	13,914
1997-2001											
Mean	2,004	3,801		618	139	3,601	858	684	503	0	12,180
2002	1,992	4,508		559	52	2,878	761	508	99	0	11,357

^a Fish Lake drainage (Yentna River drainage).

^b May include harvest from West Cook Inlet waters through 1998.

Appendix A8.-Westside Susitna River drainage chinook salmon catch by fishery, 1990-2002.

Year	Alexander Creek	Deshka River	Rabideux Creek	Yentna River	Peters Creek	Lake Creek	Fish Creek ^a	Talachulitna River	Other Streams ^b	Other Lakes ^b	Total
1990	13,939	16,438	108	346	910	9,544	1,897	3,485	2,594	109	49,370
1991	11,319	14,006	0	441	2,076	5,321	1,242	2,885	1,417	87	38,794
1992	9,777	13,911	70	1,395	1,361	9,444	1,940	3,839	2,175	477	44,389
1993	15,897	14,032		1,462	1,712	25,150	2,725	6,492	2,579	0	70,049
1994	4,749	730		482	259	4,240	1,133	1,329	660	0	12,582
1995	2,225	232		1,123	725	5,627	1,193	2,207	805	0	14,137
1996	2,351	832		887	288	7,448	812	7,223	2,167	0	22,008
1997	4,134	1,847		1,137	198	14,334	1,734	6,618	3,110	0	33,112
1998	2,904	6,223		746		9,763	1,631	4,555	3,216	0	29,038
1999	5,714	8,681		2,558	922	13,687	2,570	8,758	1,106	0	43,996
2000	6,984	18,786		1,865	1,215	16,400	1,580	4,062	827	0	51,719
2001	8,104	9,744		1,580	661	12,652	3,141	5,953	2,137	0	43,972
1997-2001											
Mean	5,568	9,056		1,577	749	13,367	2,131	5,989	2,079	0	40,367
2002	3,071	10,259		1,851	448	9,561	1,483	1,998	1,249	0	29,920

^a Fish Lake drainage (Yentna River drainage).

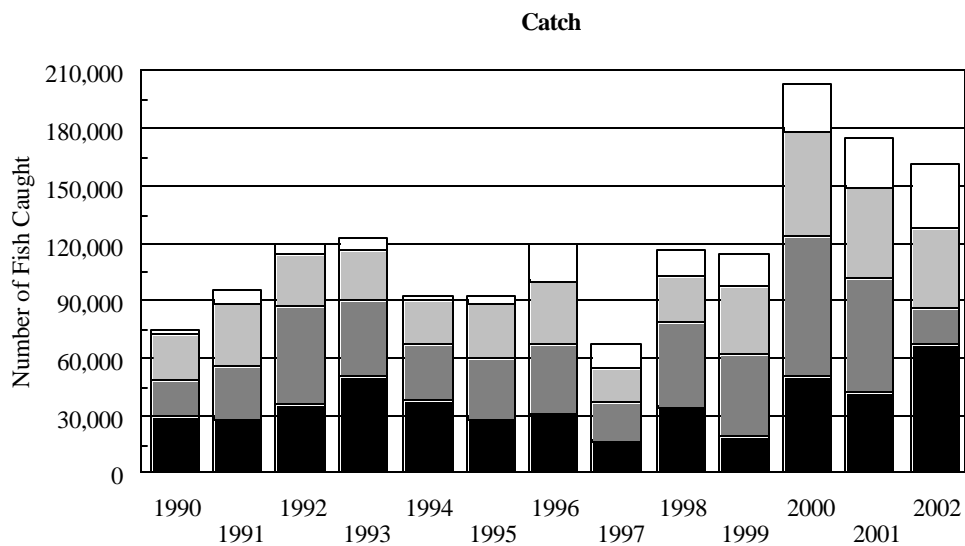
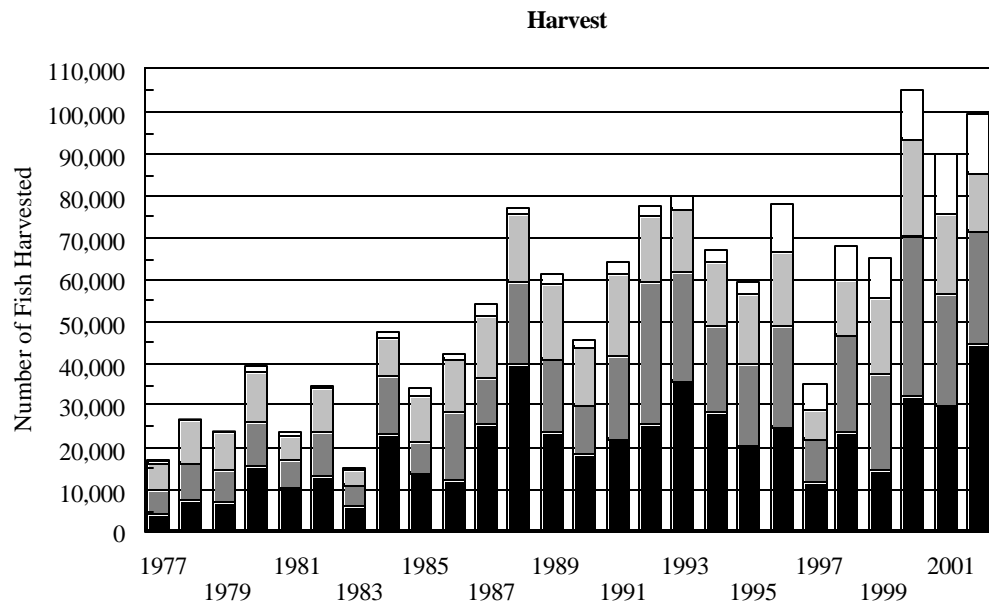
^b May include harvest from West Cook Inlet waters through 1998.

Appendix A9.-West Cook Inlet drainage chinook salmon harvest by fishery, 1977-2002.

Year	Chuitna River	Beluga River	Theodore River	Lewis River	Susitna R.– N. Foreland	South of N. Foreland	Other Sites	Total
1977	227		237	9				473
1978	408		58	12				478
1979	78		20	0				98
1980	17		17	0				34
1981	115		77					192
1982	105		42					147
1983	1,185		0					1,185
1984	723		1,110					1,833
1985	734		1,195	100				2,029
1986	960		1,418					2,378
1987	146		1,146	185				1,477
1988	312		1,137	246				1,695
1989	581	237	1,317	190				2,325
1990	1,064		748	285				2,097
1991	377		369	16				762
1992	516	175	522					1,213
1993	893		527	27		100	408	1,955
1994	530		581			6	466	1,583
1995	201		360	0		19	113	693
1996	844		183	0	331	0	0	1,358
1997	728		0	0	121	22	23	894
1998	551		0	0	73	63	6	693
1999	561		0	0	301	189	22	1,073
2000	513		0		182	468	0	1,163
2001	457		21		54	64	126	722
1997-2001								
Mean	562		4	0	146	161	35	909
2002	629		0	0	502	0	96	1,227

Appendix A10.-West Cook Inlet drainage chinook salmon catch by fishery, 1990-2002.

Year	Chuitna River	Beluga River	Theodore River	Lewis River	Susitna R.- N. Foreland	South of N. Foreland	Other Sites	Total
1990	2,659		2,252	887				5,798
1991	834		692	16				1,542
1992	2,848	207	1,945				207	5,207
1993	3,929		1,390	409	875	357	875	7,835
1994	699		877		565	25	565	2,731
1995	602		748		438	47	438	2,273
1996	2,732		621		683	11	11	4,058
1997	2,210		107	0	367	233	35	2,952
1998	2,052		13	0	391	117	6	2,579
1999	1,586		196	0	772	254	22	2,830
2000	2,012		887		466	1,591	0	4,956
2001	1,550		1,232		297	176	151	3,406
1997-2001								
Mean	1,882		487	0	459	474	43	3,345
2002	2,417		2,431	215	755	55	293	6,166



■ Knik Arm Drainage ■ East Susitna Drainage
 ■ West Susitna Drainage ■ West Cook Inlet Drainage

Appendix A11.-Northern Cook Inlet Management Area recreational coho salmon harvest and catch, 1977-2002.

Appendix A12.-Knik Arm drainage coho salmon harvest by fishery, 1977-2002.

Year	Fish Ck. Marine	Other Marine ^a	Little Susitna	Jim Creek ^b	Eklutna Tailrace	Wasilla Creek	Cottonwood Creek	Fish Creek	Other ^c	Total
1977			3,415			472			479	4,366
1978			4,865			2,112			918	7,895
1979			3,382			1,211	1,198		1,348	7,139
1980			6,302			3,555	3,375		2,798	16,030
1981			5,940	1,801		814	1,373		556	10,484
1982			7,116	2,306		1,624	1,886		744	13,676
1983	983	513	2,835	774		345	518		171	6,139
1984	1,060	12	14,253	3,429	561	1,920	1,895		299	23,429
1985		120	7,764	2,523	557	1,900	1,005	284	186	14,339
1986		106	6,039	2,948	502	944	690	364	768	12,361
1987	181	453	13,003	3,676	2,318	1,195	1,159	833	2,969	25,787
1988	200	73	19,009	11,078	3,329	1,273	746	1,637	2,692	40,037
1989	142	204	14,129	4,220	1,666	975	876	784	850	23,846
1990	251	35	7,497	6,184	1,012	1,012	286	398	2,087	18,762
1991	255	182	16,450	2,920	631	844	176	486	242	22,186
1992	130	0	20,033	3,409	664	413	348	526	291	25,814
1993	181	984	27,610	2,878	1,337	1,133	736	741	163	35,763
1994	100	99	17,665	3,946	3,553	1,390	1,100	492	194	28,539
1995		132	14,451	3,549	990	445	340	435	308	20,650
1996		687	16,753	3,911	1,217	872	762	607	65	24,874
1997		187	7,756	1,786	728	708	372	148	88	11,773
1998		124	14,469	4,197	1,422	970	1,098	1,334	136	23,750
1999		0	8,864	2,612	1,453	313	537	233	417	14,429
2000		115	20,357	5,653	5,053	0	282	470	600	32,530
2001		214	17,071	8,374	3,399	0	647	361	40	30,106
1997-2001										
Mean		128	13,703	4,524	2,411	398	587	509	256	22,518
2002		446	19,278	14,707	7,073	664	561	1,233	486	44,448

^a Beginning in 1995 includes all marine.

^b Knik River and tributaries including Jim Creek.

^c Includes lakes and streams.

Appendix A13.-Knik Arm drainage coho salmon catch by fishery, 1990-2002.

Year	Fish Ck. Marine	Other Marine ^a	Little Susitna	Knik River ^b	Eklutna Tailrace	Wasilla Creek	Cottonwood Creek	Big Lake ^c	Other ^d	Total
1990	342	63	12,403	8,774	1,675	1,361	433	677	4,230	29,958
1991	364	249	21,142	3,715	917	1,068	310	637	406	28,808
1992	308	0	27,993	4,672	1,069	688	494	681	412	36,317
1993	267	1,042	38,199	4,365	1,615	2,132	1,032	1,133	889	50,674
1994	100	139	22,241	5,168	6,792	1,727	1,347	627	593	38,734
1995		273	19,853	4,435	1,441	771	359	577	1,149	28,858
1996		790	22,996	6,050	1,605	1,235	888	743	827	35,134
1997		376	11,560	2,625	964	1,109	432	291	343	17,700
1998		208	18,621	5,155	1,669	1,512	1,194	1,615	312	30,286
1999		0	11,990	3,337	1,857	445	1,026	400	525	19,490
2000		167	31,517	10,858	6,812	0	418	560	1,359	51,691
2001		329	24,636	11,723	4,497	0	851	753	202	42,991
1997-2001										
Mean		216	19,665	6,740	3,160	613	784	724	548	32,432
2002		542	30,582	21,458	9,419	1,308	940	1,555	1,381	67,185

^a Beginning in 1995 includes all marine.

^b Knik River and tributaries including Jim Creek.

^c Big Lake drainage streams.

^d Includes lakes and streams.

Appendix A14.-Eastside Susitna River drainage coho salmon harvest by fishery, 1977-2002.

Year	Willow Creek	Lt. Willow Creek	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River ^a	Other ^b	Total
1977	679	225			438		1,415			1,070	1,882	5,709
1978	905	151			478		2,451			2,200	2,388	8,573
1979	462	262		624	462		1,735		774	1,248	1,997	7,564
1980	1,207	494		1,124	430		2,684		1,534	661	2,234	10,368
1981	747	29		901	326		2,261		968	422	939	6,593
1982	1,069	398		776	367		3,060		1,719	996	1,782	10,167
1983	576	52	52	408	596		1,402		722	836	532	5,176
1984	1,846	1,147	162	1,247	661	449	4,502		1,733	1,509	660	13,916
1985	1,026	528		608	478		1,972		1,205	747	478	7,042
1986	944	363	871	472	1,343	363	1,488	980	4,029	3,376	1,961	16,190
1987	2,898	561	36	453	1,068	145	1,394	163	1,612	2,608	90	11,028
1988	4,875	1,237	327	1,455	3,165	291	2,219	691	2,146	2,929	183	19,518
1989	4,218	1,388	336	834	2,231	190	2,295	281	2,159	2,775	371	17,078
1990	2,711	639	197	2,596	991	180	778		704	2,539	408	11,743
1991	4,154	1,308	167	3,819	1,544	657	1,612	322	1,761	3,435	700	19,479
1992	8,591	1,830	713	5,393	4,049	502	3,595	858	2,259	5,531	469	33,790
1993	5,743	1,213	554	2,385	2,413	428	3,496	535	2,922	5,830	544	26,063
1994	4,504	1,452	328	1,569	1,586	478	2,619	281	1,906	5,476	671	20,870
1995	3,498	992	472	1,687	1,092	152	2,385	198	1,385	6,672	632	19,165
1996	5,176	1,892	360	668	1,896	430	3,118	258	2,612	7,325	439	24,174
1997	2,401	661	202	294	1,198	166	1,692	177	443	2,815	248	10,297
1998	5,908	1,185	670	564	3,417	382	2,720	920	1,589	5,340	382	23,086
1999	5,019	871	260	1,198	3,045	440	3,382	622	1,709	5,814	932	23,292
2000	8,679	2,885	994	1,702	3,348	1,181	5,454	1,160	3,274	7,703	1,368	37,748
2001	6,835	1,936	728	1,408	2,588	683	5,023	146	1,072	5,195	1,003	26,617
1997-2001												
Mean	5,768	1,508	571	1,033	2,719	570	3,654	605	1,617	5,373	787	24,208
2002	6,040	1,513	494	797	2,995	204	4,644	288	3,238	5,640	1,330	27,183

^a Talkeetna River and tributaries including Clear Creek.

^b Includes lakes and streams.

Appendix A15.-Eastside Susitna River drainage coho salmon catch by fishery, 1990-2002.

Year	Willow Creek	Lt. Willow Creek	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River ^a	Other ^b	Total
1990	4,111	1,007	344	3,276	1,581	254	1,491		950	4,488	672	18,174
1991	5,189	1,792	260	4,768	2,579	676	2,393	322	2,846	5,134	1,983	27,942
1992	12,300	3,037	972	7,171	5,531	664	6,397	1,126	3,182	9,717	1,864	51,981
1993	7,964	1,481	606	3,308	4,475	771	5,134	764	3,787	10,661	937	39,888
1994	5,845	1,806	328	1,796	1,959	615	3,296	525	2,116	8,485	1,946	28,717
1995	4,752	1,466	604	1,838	1,593	239	3,545	415	1,705	14,011	1,434	31,062
1996	7,740	2,218	379	996	2,448	706	5,002	420	3,457	14,044	953	38,363
1997	4,270	859	271	402	1,712	396	2,581	461	770	6,031	735	18,524
1998	8,495	1,769	856	720	4,214	894	3,880	1,222	1,837	11,459	2,047	37,393
1999	9,246	1,151	282	1,616	4,523	687	4,823	1,825	3,538	13,140	2,739	43,570
2000	13,744	3,949	1,119	3,297	4,126	3,092	11,828	2,505	5,384	21,798	2,463	73,305
2001	12,456	3,930	1,128	1,671	4,867	2,260	9,175	537	1,793	17,431	3,260	58,508
1997-2001												
Mean	9,642	2,332	731	1,541	3,888	1,466	6,457	1,310	2,664	13,972	2,249	46,260
2002	11,369	2,532	1,046	1,803	5,478	1,018	9,598	973	6,909	19,759	4,072	64,557

^a Talkeetna River and tributaries including Clear Creek.

^b Includes lakes and streams.

Appendix A16.-Westside Susitna River drainage coho salmon harvest by fishery, 1977-2002.

Year	Alexander Creek	Deshka River	Rabideux Creek	Peters Creek	Yentna River	Lake Creek	Fish Creek ^a	Talachulitna River	Other ^b	Total
1977	1,562	559				1,203		346	2,929	6,599
1978	2,401	1,789				2,212		88	3,683	10,173
1979	1,560	973				2,671		125	3,707	9,036
1980	999	2,290				2,351		491	6,010	12,141
1981	891	632				1,035		240	3,142	5,940
1982	1,907	2,463				1,603		524	4,161	10,658
1983	408	1,036				1,392		84	690	3,610
1984	1,509	1,646		12		2,432		486	3,426	9,511
1985	1,455	2,637				4,105		224	2,849	11,270
1986	1,352	4,256				1,575	324	402	5,208	13,177
1987	1,539	2,789				1,358	362	235	2,463	8,746
1988	1,965	7,458		18		2,110	400	418	3,914	16,283
1989	2,207	8,947	409	47	103	1,907	549	688	3,369	18,226
1990	1,973	4,959	540	33	353	2,986	793	276	1,970	13,883
1991	2,296	8,111	32	221	718	4,221	1,081	828	2,999	20,507
1992	834	7,110	543	300	275	2,632	575	405	3,544	16,218
1993	1,719	6,530		67	227	3,101	920	152	2,738	15,454
1994	2,188	5,511		72	556	2,723	714	427	3,170	15,361
1995	2,692	2,275		183	569	4,736	1,058	1,031	4,604	17,148
1996	803	4,615		57	1,198	4,445	618	805	4,834	17,375
1997	1,307	1,169		89	591	1,445	332	793	1,397	7,123
1998	1,158	3,630			299	4,353	785	905	2,105	13,235
1999	1,418	4,034		65	1,093	6,931	2,261	1,453	740	17,995
2000	2,695	8,687		157	1,050	6,297	1,320	1,347	1,709	23,262
2001	1,972	6,556		0	620	5,610	1,958	1,142	1,363	19,221
1997-2001										
Mean	1,710	4,815		78	731	4,927	1,331	1,128	1,463	16,167
2002	1,191	3,616		177	705	4,613	1,034	1,447	1,361	14,144

^a Fish Lake drainage (Yentna River drainage).

^b May include harvest from West Cook Inlet Management Unit lakes and streams.

Appendix A17.-Westside Susitna River drainage coho salmon catch by fishery, 1990-2002.

Year	Alexander Creek	Deshka River	Rabideux Creek	Peters Creek	Yentna River	Lake Creek	Fish Creek ^a	Talachulitna River	Other ^b	Total
1990	2,931	8,629	672	110	617	4,573	1,212	849	4,901	24,494
1991	3,465	10,849	32	1,112	211	7,424	1,491	3,716	4,484	32,974
1992	1,725	10,211	794	308	640	4,251	1,142	1,215	6,436	26,722
1993	2,698	10,698		181	370	5,401	1,342	408	5,966	27,064
1994	2,723	8,579		136	556	3,872	1,194	1,492	4,431	22,983
1995	3,098	3,746		874	634	6,135	1,921	5,271	6,502	28,181
1996	1,615	7,286		57	1,702	7,289	2,256	3,716	8,824	32,745
1997	2,287	3,151		356	1,255	2,544	614	2,511	4,967	17,685
1998	2,203	4,719			683	8,212	1,676	2,509	4,166	24,168
1999	2,732	5,235		76	1,941	10,932	4,210	4,306	5,210	34,642
2000	3,962	18,554		1,318	4,074	11,119	2,970	7,042	4,465	53,504
2001	3,148	11,353		46	3,141	11,066	3,618	13,033	3,335	48,740
1997-2001										
Mean	2,866	8,602		449	2,219	8,775	2,618	5,880	4,429	35,748
2002	2,683	6,893		344	2,562	11,281	2,280	11,446	4,180	41,669

^a Fish Lake drainage (Yentna River drainage).

^b May include harvest from West Cook Inlet Management Unit lakes and streams.

Appendix A18.-West Cook Inlet drainage coho salmon harvest by fishery, 1977-2002.

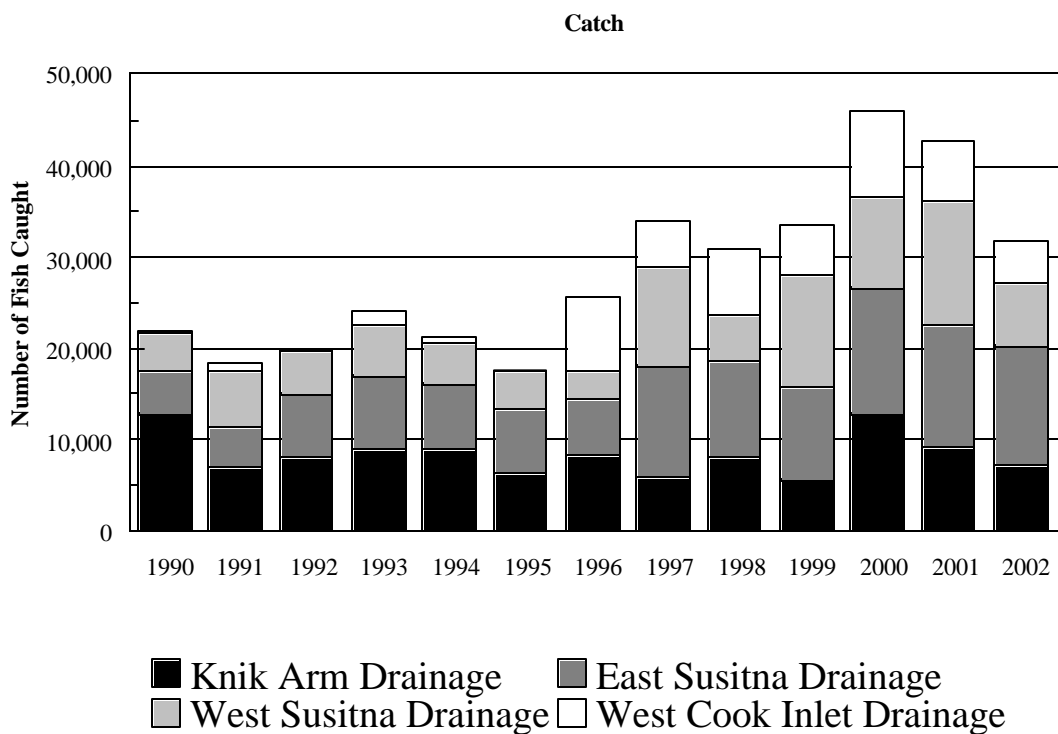
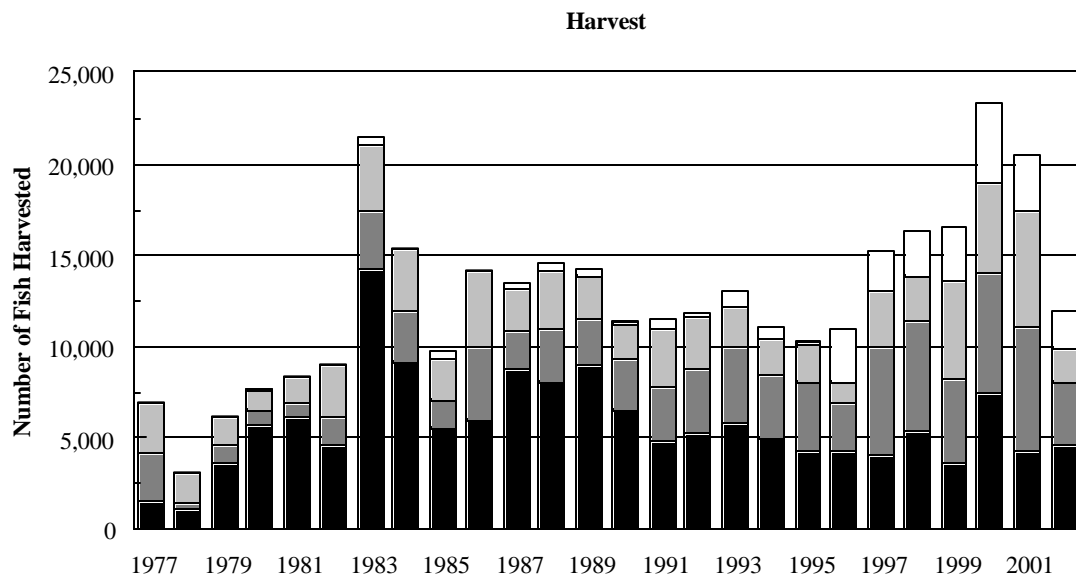
Year	Chuitna River	Beluga River	Theodore River	Lewis River	Kustatan River	Polly Creek	Big River Lakes	Other Susitna R.- N. Foreland	Other South of N. Foreland	Other ^a	Total
1977	316		113	103							532
1978	277		101	0							378
1979	287		50	0							337
1980	258		370	0							628
1981	594		10								604
1982	220		115			410					745
1983	554		10		1,800	188					2,552
1984	898		137		1,646						2,681
1985	1,095		261	75	4,889						6,320
1986	815		168		3,239						4,222
1987	1,684		996	145	5,723						8,548
1988	782		400	0	6,221						7,403
1989	1,228	419	502	112	5,413					9	7,683
1990	1,113		198	33	4,584		88				6,016
1991	1,791		513	181	5,768						8,253
1992	1,547	243	421		4,494	332					7,037
1993	1,313		236	194	6,457		158		751	1,217	10,326
1994	559		521		5,259		25		268	1,615	8,247
1995	1,407		372		4,237	641	75		559	891	8,182
1996	1,263		361		6,266	170	600	741	1,858	171	11,430
1997	1,156		187		3,605		305	574	632	33	6,492
1998	2,348		380		3,999		264	650	382	137	8,160
1999	1,614		290		3,178		463	1,282	2,047	465	9,339
2000	1,872		1,161		5,699		325	1,134	1,521		11,712
2001	3,284		1,029		4,920		508	1,210	2,998		13,949
1997-2001											
Mean	2,055		609		4,280		373	970	1,516	212	9,930
2002	2,586		1,208	200	5,795		490	1,725	761	615	13,380

^a Includes lakes and streams. Beginning in 1999 includes saltwater shoreline.

Appendix A19.-West Cook Inlet drainage coho salmon catch by fishery, 1990-2002.

Year	Chuitna River	Beluga River	Theodore River	Lewis River	Kustatan River	Polly Creek	Big River Lakes	Other Susitna R.- N. Foreland	Other South of N. Foreland	Other ^a	Total
1990	2,336		231	44	6,899		331				9,841
1991	4,292		757	205	9,239						14,493
1992	2,486		1,207		6,227	445				259	10,624
1993	2,878		686	270	11,136		175	2,200	2,354	2,200	21,899
1994	691		693		6,611		25	1,713	388	1,713	11,834
1995	2,626		815		6,237	1,131	94	1,047	1,697	1,047	14,694
1996	2,097		460		10,600	564	924	1,174	3,556	477	19,852
1997	2,388		256		6,750		698	1,131	1,635	176	13,034
1998	3,551		411		6,369		601	816	1,241	594	13,583
1999	2,633		473		3,908		1,306	1,791	3,676	1,489	15,276
2000	4,318		2,678		9,725		566	3,077	3,681		24,045
2001	6,334		1,322		8,353		834	2,874	4,960		24,677
1997-2001											
Mean	3,845		1,028		7,021		801	1,938	3,039	753	18,123
2002	5,170		2,455	404	11,463		1,489	3,142	4,371	4,022	32,516

^a Includes lakes and streams. Beginning in 1996 includes saltwater shoreline.



Appendix A20.-Northern Cook Inlet Management Area recreational sockeye salmon harvest and catch, 1977-2002.

Appendix A21.-Knik Arm drainage sockeye salmon harvest by fishery, 1977-2002.

Year	Fish Ck. Marine	Other Marine ^a	Little Susitna	Knik River ^b	Eklutna Tailrace	Wasilla Creek	Cottonwood Creek	Big Lake ^c	Big Lake	Nancy Lake ^d	Other ^e	Total
1977			888			274			37	56	321	1,576
1978			859			0			0	14	366	1,239
1979			1,478			0	1,525		157	0	456	3,616
1980			2,127			0	2,660		43	69	775	5,674
1981			1,619	450		0	3,245		134	316	316	6,080
1982			1,865	880		0	608		126	618	524	4,621
1983	6,013	1,748	2,787	1,277		0	1,632		89	587	164	14,297
1984	499	237	6,385	823	187	200	661		175	12	61	9,240
1985		76	2,894	1,037	142	120	1,179	109	22	33	0	5,612
1986		50	3,616	905	28	61	789	39	0	99	422	6,009
1987	417	435	3,513	1,105	254	18	869	1,087	0	670	417	8,785
1988	437	36	2,310	1,928	200	36	346	2,037	0	109	637	8,076
1989	789	364	2,315	1,322	204	98	683	2,900	0	169	196	9,040
1990	174	87	891	2,219	29	19	271	2,238	0	107	553	6,588
1991	395	320	1,722	1,459	19	56	47	565	0	207	178	4,968
1992	8	148	1,274	1,471	173	8	633	1,241	0	263	130	5,349
1993	588	106	2,487	1,041	211	134	453	598	0	0	308	5,926
1994	123	6	1,809	1,258	133	76	807	476	0	66	328	5,082
1995		218	1,116	990	190	31	895	651	0	31	227	4,349
1996		137	2,286	1,077	84	42	444	68	0	88	81	4,307
1997		95	1,845	864	100	20	1,008	122	0	30	11	4,095
1998		20	872	1,220	57	212	2,906	154	0	0	58	5,499
1999		11	1,282	614	151	11	1,080	432	0	0	77	3,658
2000		32	3,661	1,543	764		1,118	21	0	55	342	7,536
2001		87	1,959	922	999		314	10	0	37	0	4,328
1997-2001												
Mean		49	1,924	1,033	414	81	1,285	148	0	24	98	5,023
2002		102	2,133	1,268	529	12	319	147	0	0	109	4,619

^a Beginning in 1995 includes all marine.

^b Knik River and tributaries including Jim Creek.

^c Big Lake drainage streams.

^d Nancy Lake complex lakes.

^e Includes lakes and streams.

Appendix A22.-Knik Arm drainage sockeye salmon catch by fishery, 1990-2002.

Year	Fish Ck Marine	Other Marine ^a	Little Susitna	Knik River ^b	Eklutna Tailrace	Wasilla Creek	Cottonwood Creek	Big Lake ^c	Big Lake	Nancy Lake ^d	Other ^e	Total
1990	417	145	2,267	3,537	78	97	417	4,109		223	1,676	12,966
1991	405	320	2,908	1,713	19	56	47	678		320	526	6,992
1992	90	148	2,572	2,055	205	8	953	1,430		625	171	8,257
1993	708	106	3,755	1,185	284	151	1,099	1,330		38	308	8,964
1994	123	25	3,581	1,996	209	218	1,215	561		642	420	8,990
1995		416	2,116	1,357	221	114	1,228	725		227	41	6,445
1996		146	4,315	1,983	185	67	577	235	0	274	669	8,451
1997		95	2,540	1,491	110	20	1,438	162	0	110	73	6,039
1998		35	1,515	1,846	144	318	3,699	200	0	251	105	8,113
1999		11	2,253	787	455	11	1,328	432	0	0	282	5,559
2000		63	5,691	2,464	2,432		1,368	46	0	55	641	12,760
2001		160	3,910	2,414	2,121		478	88	0	85	131	9,387
1997-2001												
Mean		73	3,182	1,800	1,052	116	1,662	186	0	100	246	8,372
2002		116	3,756	1,632	1,085	96	354	153	0	0	109	7,301

^a Beginning in 1995 includes all marine.

^b Knik River and tributaries including Jim Creek.

^c Big Lake drainage streams.

^d Nancy Lake complex lakes.

^e Includes lakes and streams.

Appendix A23.-Eastside Susitna River drainage sockeye salmon harvest by fishery, 1977-2002.

Year	Willow Creek	Little Willow	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River ^a	Other Streams ^b	Other Lakes	Total
1977	831	305			450		978			334	696		3,594
1978	56	28			14		85			28	56		267
1979	94	141		0	31		346		157	31	220		1,020
1980	83	77		77	0		257		116	6	257		873
1981	77	67		38	105		182		220	29	115		833
1982	94	105		52	88		514		189	115	398		1,555
1983	425	110	0	151	370		534		685	534	343	69	3,221
1984	249	337	0	87	62	0	561		100	636	636	37	2,705
1985	139	80		110	30		279		249	508	70	0	1,465
1986	290	0	109	0	0	0	363	182	290	1,597	1,198	0	4,029
1987	254	72	54	0	163	0	163	72	181	580	507	0	2,046
1988	564	55	18	164	273	36	364	255	18	1,110	0	0	2,857
1989	414	51	59	110	169	17	296	76	363	617	25	330	2,527
1990	208	149	99	69	149	50	149	0	119	1,506	179	0	2,677
1991	397	71	62	230	168	0	44	97	88	1,280	460	0	2,897
1992	526	164	33	123	189	58	370	140	394	1,356	115	0	3,468
1993	528	120	0	106	39	0	237	241	183	2,560	113	10	4,137
1994	383	28	0	82	102	0	85	66	133	2,278	286	0	3,443
1995	430	73	0	0	98	52	481	0	220	2,082	145	101	3,682
1996	113	191	0	95	8	67	88	0	43	2,053	17	0	2,675
1997	119	85	41	30	190	70	144	11	60	4,931	170	0	5,851
1998	86	43	0	0	103	0	195	30	68	4,546	788	0	5,859
1999	162	64	11	0	112	32	248	184	0	3,197	382	216	4,608
2000	307	55	0	42	122	0	346	213	199	4,683	225	317	6,509
2001	244	70	58	0	269	48	584	77	48	4,797	344	237	6,776
1997-2001													
Mean	184	63	22	14	159	30	303	103	75	4,431	382	154	5,921
2002	215	31	0	0	122	30	199	0	31	2,615	110	74	3,427

^a Talkeetna River and tributaries including Clear Creek.

^b Other includes lakes and streams for 1977-1982.

Appendix A24.-Eastside Susitna River drainage sockeye salmon catch by fishery, 1990-2002.

	Willow	Little	Kashwitna	Caswell	Sheep	Goose	Montana	Birch	Sunshine	Talkeetna	Other	Other	
Year	Creek	Willow	River	Creek	Creek	Creek	Creek	Creek	Creek	River ^a	Streams	Lakes	Total
1990	862	208	99	119	208	79	406		159	2,121	238	0	4,499
1991	574	71	62	291	194	0	194	124	124	1,943	653	379	4,609
1992	929	205	33	140	296	173	600	140	731	3,173	246	41	6,707
1993	942	381	0	154	149	17	570	337	202	5,009	191	55	8,007
1994	616	161	0	130	210	0	399	66	199	4,331	995	9	7,116
1995	838	250	0	0	214	52	991	0	251	3,830	312	201	6,939
1996	392	505	33	145	8	92	266	0	51	4,521	84	0	6,097
1997	359	259	73	30	269	120	407	11	70	10,026	374	0	11,998
1998	655	43	15	15	412	76	285	181	87	7,056	1,734	0	10,559
1999	689	161	11	0	348	32	966	292	21	6,286	1,205	237	10,248
2000	1,652	101	0	63	340	13	622	509	294	8,917	1,057	423	13,991
2001	1,035	240	116	0	461	48	968	97	70	8,643	973	575	13,226
1997-2001													
Mean	878	161	43	22	366	58	650	218	108	8,186	1,069	247	12,004
2002	900	241	17	56	370	291	1,455	0	31	9,016	397	240	13,014

^a Talkeetna River and tributaries including Clear Creek.

Appendix A25.-Westside Susitna River drainage sockeye salmon harvest by fishery, 1977-2002.

Year	Alexander Creek	Deshka River	Rabideux Creek	Yentna River	Lake Creek	Fish Creek ^a	Talachulitna River	Judd Lake	Other Streams ^b	Other Lakes ^b	Total
1977	349	0			658		457	24	842	456	2,786
1978	183	0			254		141	70	662	324	1,634
1979	79	0			440		47	220	362	410	1,557
1980	52	0			267		112	267	34	379	1,111
1981	67	0			211		172		594	364	1,408
1982	335	0			252		63		1,320	911	2,881
1983	69	0			726		41	0	1,370	1,314	3,549
1984	87	125			374		262	312	1,395	860	3,415
1985	261	50			137		50		772	1,032	2,302
1986	0	11			547	1,273	424	514	1,173	134	4,076
1987	72	272			435	398	290	580	163	217	2,427
1988	55	146			291	146	800	182	1,038	509	3,167
1989	260	217	9	139	121	165	251	130	547	468	2,307
1990	30	189	0	20	358	89	189		646	417	1,938
1991	136	262	155	0	262	475	78	233	968	514	3,083
1992	123	82	0	107	115	189	205		1,331	764	2,916
1993	45	87		103	489	412	171		724	130	2,161
1994	38	0		237	430	142	237		653	182	1,919
1995	94	42		239	392	178	191		879	91	2,106
1996	0	8		0	137	68	108		794		1,115
1997	61	11		410	1,656	209	335		427	0	3,109
1998	86	57	0	232	868	168	181		871		2,463
1999	205	50		324	2,604	865	337		894	0	5,279
2000	1,440	339		761	1,767	226	162		251		4,946
2001	544	249		397	3,149	714	159		1062	37	6,311
1997-2001											
Mean	467	141	0	425	2,009	436	235		701	12	4,422
2002	257	67		94	526	238	278		421	0	1,881

^a Yentna River drainage.

^b May include harvest from West Cook Inlet waters.

Appendix A26.-Westside Susitna River drainage sockeye salmon catch by fishery, 1990-2002.

Year	Alexander Creek	Deshka River	Rabideux Creek	Yentna River	Lake Creek	Fish Creek ^a	Talachulitna River	Judd Lake	Other ^b Streams	Other ^b Lakes	Total
1990	80	626	0	20	626	239	656		1,353	746	4,346
1991	136	281	155	19	911	523	475	853	1,676	959	5,988
1992	148	205	0	107	271	288	247		2,515	879	4,660
1993	194	207		463	1,517	480	322		1,579	720	5,482
1994	90	169		332	822	161	681		1,326	785	4,366
1995	116	64		239	615	295	1,003		1,498	348	4,178
1996	0	33		42	460	271	1,084		1,074		2,964
1997	125	335		410	5,025	384	3,340		1,316		10,935
1998	173	87		291	2,324	323	518		1,259		4,975
1999	431	920		421	6,045	1,886	863		1,628	0	12,194
2000	2,246	723		1,085	3,404	472	1,224		710		9,864
2001	1,040	314		1,960	5,700	1785	923		1,729	98	13,549
1997-2001											
Mean	803	476		833	4,500	970	1,374		1,328	49	10,303
2002	866	115		612	2,767	312	1,527		682	0	6,881

^a Yentna River drainage.

^b May include harvest from West Cook Inlet waters through 1998.

Appendix A27.-West Cook Inlet drainage sockeye salmon harvest by fishery, 1977-2002.

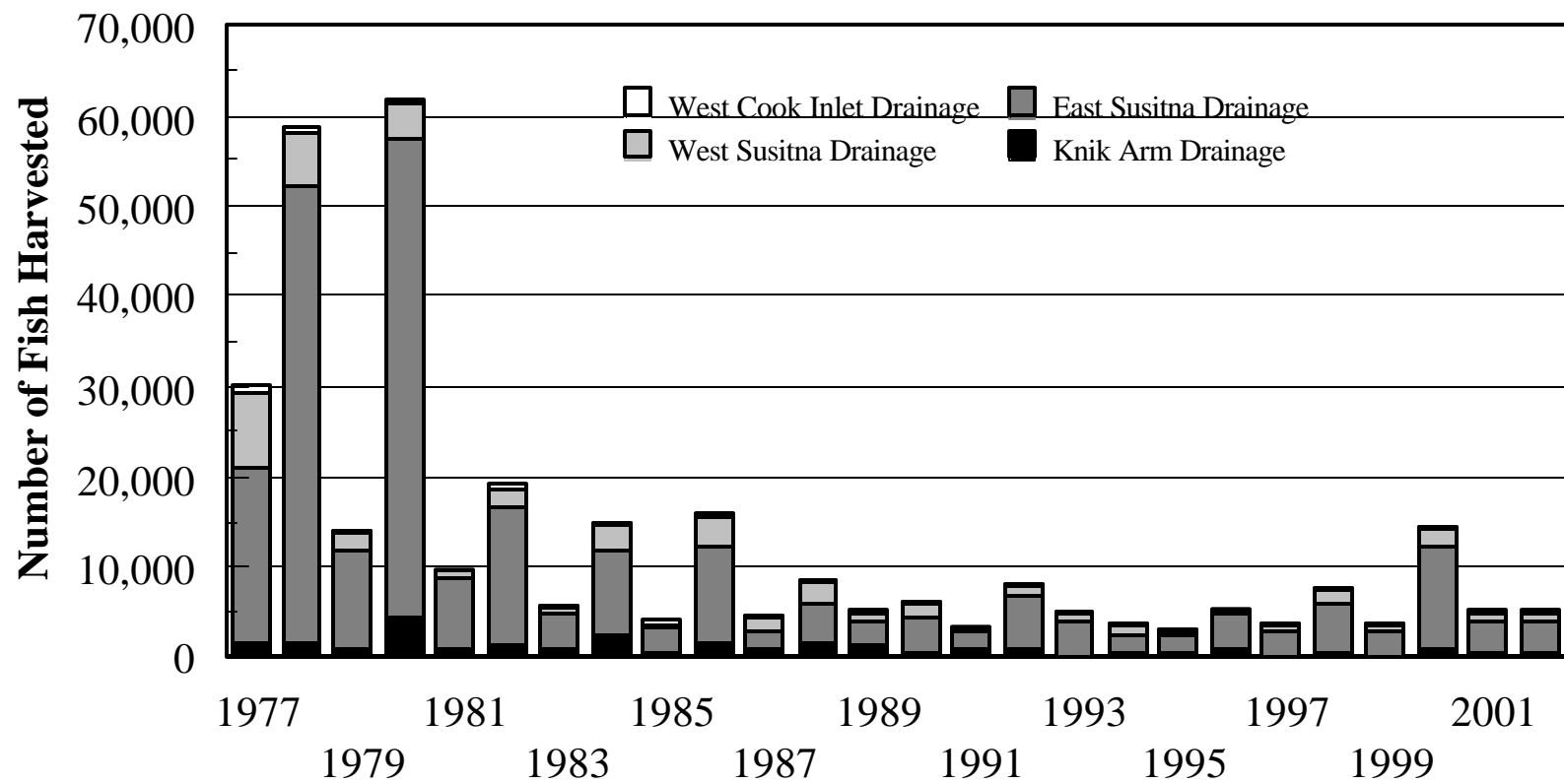
Year	Chuitna River	Theodore River	Lewis River	Kustatan River	Big River Lakes	Susitna R.- N. Foreland	South of N. Foreland	Other ^a	Total
1977	6	0	0						6
1978	0	0	0						0
1979	0	0	0						0
1980	0	0	0						0
1981	48	0							48
1982	10	0							10
1983	356	0		110					466
1984	62	0		187					249
1985	274	25	0	162					461
1986	22	67		0					89
1987	272	0	0	0					272
1988	437	18	0	18					473
1989	43	52	0	165				269	529
1990	139	50	0	10	437				636
1991	552	10	0	203					765
1992	8	49		131					188
1993	46	35	0	289	976		229	780	2,355
1994	0	9		285	1,013		114	614	2,035
1995	62	0		44	998		159	41	1,304
1996	228	0		102	2,028	127	152	314	2,951
1997	170	0		274	1,171	150	409	0	2,174
1998	235	8		314	1,282	266	288	129	2,522
1999	194	0		186	1,783	76	464	287	2,990
2000	58	42		210	3,047	210	677	0	4,244
2001	634	0		293	992	201	1,030	0	3,150
1997-2001									
Mean	258	10		255	1,655	181	574	83	3,016
2002	585	0	0	232	664	24	160	354	2,019

^a Includes lakes and streams. Beginning in 1999 includes saltwater shoreline.

Appendix A28.-West Cook Inlet drainage sockeye salmon catch by fishery, 1990-2002.

	Chuitna River	Theodore River	Lewis River	Kustatan River	Big River Lakes	Susitna R.- N. Foreland	South of N. Foreland	Other ^a	Total
1990	219	50	0	10	1,044				1,323
1991	698	10	0	329					1,037
1992	66	49		288					403
1993	181	35	0	337	2,364	1,429	689	1,429	6,464
1994	0	95		446	1,595	562	114	562	3,374
1995	62	0		96	2,180	41	190	41	2,610
1996	787	18		130	5,216	1,084	236	451	7,922
1997	276	0		294	3,242	210	844	42	4,908
1998	348	30		1,334	3,342	281	1,771	161	7,267
1999	194	0		282	2,922	324	1,284	614	5,620
2000	199	95		743	5,966	1,125	1,152	0	9,280
2001	1,107	0		312	3,057	381	1,620	0	6,477
1997-2001									
Mean	425	25		593	3,706	464	1,334	163	6,710
2002	757	17	0	891	1,327	497	353	623	4,465

^a Includes lakes and streams. Beginning in 1999 includes saltwater shoreline.



Appendix A29.-Northern Cook Inlet Management Area recreational pink salmon harvest, 1977-2002.

Appendix A30.-Knik Arm drainage pink salmon harvest by fishery, 1977-2002.

Year	Fish Ck. Marine	Other Marine ^a	Little Susitna	Knik River ^b	Eklutna Tailrace	Wasilla Creek	Cottonwood Creek	Big Lake ^c	Other ^d	Total
1977			1,208			217			236	1,661
1978			1,517			279			46	1,842
1979			618			136	0		64	818
1980			3,918			310	0		473	4,701
1981			709	0		96	0		29	834
1982			1,163	31		147	0		84	1,425
1983	361	209	251	47		10	0		131	1,009
1984	312	0	2,045	287	0	62	0		37	2,743
1985		0	590	175	0	0	0	22	0	787
1986		39	696	138	160	66	0	646	55	1,800
1987	0	18	217	18	217	199	0	217	0	886
1988	36	36	1,146	127	327	0	0	255	0	1,927
1989	60	69	518	164	225	69	17	199	0	1,321
1990	81	0	325	35	35	23	0	127	24	650
1991	210	149	419	9	17	0	0	122	0	926
1992	9	46	870	0	9	0	0	55	55	1,044
1993	0	0	124	0	0	0	58	38	10	230
1994	17	0	455	9	77	0	0	68	9	635
1995		0	264	58	58	10	19	0	0	409
1996		41	762	10	88	0	0	49	10	961
1997		0	319	9	9	0	18	0	22	377
1998		0	552	22	0	0	0	44	28	646
1999		0	52	13	27	0	0	27	0	119
2000		0	801	41	102		0	10	0	954
2001		0	163	176	54		0	11	0	404
1997-2001										
Mean		0	377	52	38	0	4	18	10	500
2002		34	283	27	9	0	0	65	48	466

^a Beginning in 1995 includes all marine.

^b Knik River and tributaries including Jim Creek.

^c Big Lake drainage streams.

^d Includes lakes and streams.

Appendix A31.-Eastside Susitna River drainage pink salmon harvest by fishery, 1977-2002.

Year	Willow Creek	Lt. Willow Creek	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River ^a	Other ^b	Total
1977	7,140	1,261			4,291		3,568			1,314	2,089	19,663
1978	18,901	3,142			6,981		15,619			2,074	3,994	50,711
1979	3,445	745		100	2,418		2,472		700	645	664	11,189
1980	23,638	6,420		1,663	6,362		8,230		2,408	622	3,403	52,746
1981	2,797	604		335	1,236		1,782		958	19	412	8,143
1982	4,789	1,520		1,092	2,599		3,595		1,132	220	398	15,345
1983	1,647	157	0	126	682		902		241	73	126	3,954
1984	3,155	524	0	337	948	50	3,030		611	636	200	9,491
1985	697	169		10	10		807		468	120	229	2,510
1986	1,561	799	36	254	3,049	145	2,033	290	944	399	1,017	10,527
1987	815	109	54	36	344	18	507	0	54	272	0	2,209
1988	1,510	491	36	55	891	164	709	18	73	182	0	4,129
1989	1,045	115	0	41	288	107	288	16	436	379	0	2,715
1990	1,554	463	0	142	486	154	712		273	130	179	4,093
1991	890	203	0	19	309	58	251	0	97	135	39	2,001
1992	1,951	467	9	128	1,466	339	586	46	385	394	128	5,899
1993	1,427	243	10	36	520	36	1,147	0	19	486	17	3,941
1994	712	277	85	9	243	33	221	0	66	102	220	1,968
1995	772	136	19	39	362	38	700	0	10	177	58	2,311
1996	1,664	481	0	39	369	101	902	0	20	226	88	3,890
1997	705	51	0	0	221	128	1,036	0	28	240	68	2,477
1998	2,933	240	41	20	223	87	1,290	0	38	349	358	5,579
1999	665	362	12	13	643	241	833	0	0	92	26	2,887
2000	5,484	1,558	31	123	1,893	551	1,161	93	41	450	98	11,483
2001	837	32	11	21	525	171	1,549	0	21	262	221	3,650
1997-2001												
Mean	2,125	449	19	35	701	236	1,174	19	26	279	154	5,215
2002	1,470	53	0	0	730	37	1,317	7	23	123	0	3,760

^a Talkeetna River and tributaries including Clear Creek.

^b Includes lakes and streams.

Appendix A32.-Westside Susitna River drainage pink salmon harvest by fishery, 1977-2002.

Year	Alexander Creek	Deshka River	Yentna River	Peters Creek	Lake Creek	Fish Creek ^a	Talachulitna River	Other Steams ^b	Other Lakes ^b	Total
1977	1,263	391			4,927		539	1,022	0	8,142
1978	1,146	697			2,833		31	898	0	5,605
1979	236	109			882		100	527	0	1,854
1980	809	689			2,101		276	362	0	4,237
1981	57	19			412		29	38	0	555
1982	482	377			389		220	597	0	2,065
1983	126	21			430		0	125	0	702
1984	62	748		0	636		87	922	12	2,467
1985	112	87			137		0	248	0	584
1986	413	882			670	313	235	872	0	3,385
1987	91	652			670	18	0	0	36	1,467
1988	400	800		0	491	255	18	582	36	2,582
1989	8	152	0	0	177	177	8	523	0	1,045
1990	273	297	0	0	262	48	250	108	0	1,238
1991	55	98	11	0	131	22	0	207	0	524
1992	458	513	0	0	220	37	0	36	0	1,264
1993	144	84	19	0	210	65	10	54	0	586
1994	283	564	50	17	228	102	0	15	0	1,259
1995	57	77	0	0	55	86	48	38	0	361
1996	21	236	0	0	197	10	73	21	0	558
1997	250	11	0	0	296	31	65	76	0	729
1998	425	702	0	0	321	41	32	68	0	1,589
1999	56	67	68	0	300	0	75	13	0	577
2000	370	799	81	19	631	74	82	103		2,159
2001	68	291	126	0	414	159	0	16	0	1,074
1997-2001										
Mean	234	374	55	4	392	61	51	55	0	1,226
2002	145	185	0	0	284	60	0	26	0	700

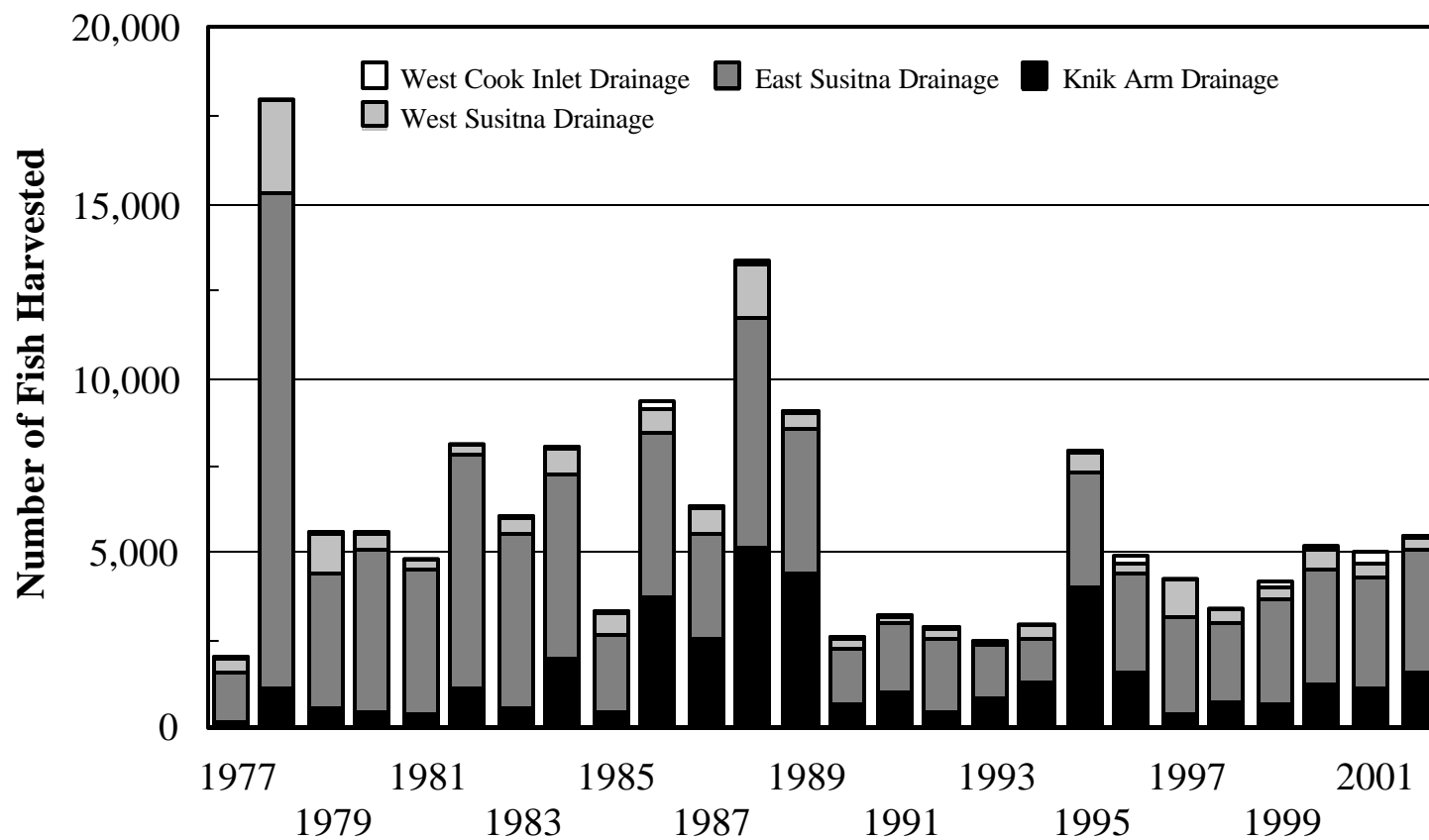
^a Fish Lake drainage (Yentna River drainage).

^b May include harvest from West Cook Inlet waters through 1998.

Appendix A33.-West Cook Inlet drainage pink salmon harvest by fishery, 1977-2002.

	Chuitna River	Theodore River	Lewis River	Susitna R.- N. Foreland	South of N. Foreland	Other ^a	Total
1977	245	363	62				670
1978	155	449	46				650
1979	55	9	0				64
1980	69	232	0				301
1981	38	57					95
1982	147	63					210
1983	21	0					21
1984	0	62					62
1985	62	75	0				137
1986	235	45					280
1987	0	72	0				72
1988	0	55	0				55
1989	34	0	8			68	110
1990	12	12	0				24
1991	44	0	0				44
1992	18	0				0	18
1993	0	0	9		35	26	70
1994	0	0			8	8	16
1995	0	0			0	0	0
1996	0	0			0	21	21
1997	37	0			0	0	37
1998	0	14			0	61	75
1999	40	27		16	8	145	236
2000	21	0		10	0	0	31
2001	0	0		21	80	0	101
1997-2001							
Mean	20	8			18	41	96
2002	20	0	0	9	56	166	251

^a Includes lakes and streams. Beginning in 1999 includes saltwater shoreline.



Appendix A34.-Northern Cook Inlet Management Area recreational chum salmon harvest, 1977-2002.

Appendix A35.-Knik Arm drainage chum salmon harvest by fishery, 1977-2002.

Year	Fish Ck. Marine	Other Marine ^a	Little Susitna	Knik River ^b	Eklutna Tailrace	Wasilla Creek	Cottonwood Creek	Big Lake ^c	Other ^d	Total
1977			131			17			102	250
1978			956			58			117	1,131
1979			364			45	0		245	654
1980			465			9	0		60	534
1981			278	0		58	0		96	432
1982			943	168		0	0		63	1,174
1983	84	26	450	10		0	0		73	642
1984	62	0	1,708	125	25	0	0		112	2,032
1985		66	382	11	55	0	0	0	0	514
1986		72	822	1,021	1,750	0	0	66	39	3,770
1987	0	0	534	233	1,641	146	10	10	0	2,574
1988	18	55	673	291	3,438	0	0	564	182	5,221
1989	93	92	712	435	3,043	0	0	19	83	4,477
1990	11	11	170	45	464	11	0	34	0	746
1991	8	31	425	31	379	0	155	70	0	1,099
1992	23	0	319	8	152	0	0	0	8	510
1993	0	9	500	46	293	0	37	0	0	885
1994	0	22	690	169	365	0	0	0	110	1,356
1995		9	620	433	3,035	9	0	9	0	4,115
1996		11	310	321	973	55	0	11	0	1,681
1997		0	241	0	143	0	0	0	9	393
1998		13	467	77	225	0	0	15	0	797
1999		0	481	162	81	14	0	0	0	738
2000		0	905	61	269		0	12	7	1,254
2001		0	513	122	488		0	0	32	1,155
1997-2001										
Mean		3	521	84	241	5	0	5	10	867
2002		0	1,227	101	252	81	0	9	15	1,685

^a Beginning in 1995 includes all marine.

^b Knik River and tributaries including Jim Creek.

^c Big Lake drainage streams.

^d Includes lakes and streams.

Appendix A36.-Eastside Susitna River drainage chum salmon harvest by fishery, 1977-2002.

Year	Willow Creek	Little Willow	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River ^a	Other ^b	Total
1977	343	175			202		326			146	190	1,382
1978	2,458	1,015			1,697		4,429			1,912	2,692	14,203
1979	582	118		9	682		745		55	355	1,245	3,791
1980	989	270		19	648		571		225	385	1,445	4,552
1981	1,533	192		0	987		805		125	57	450	4,149
1982	2,086	199		0	1,750		1,708		231	31	639	6,644
1983	1,490	147	0	0	902		1,311		42	650	440	4,982
1984	2,095	224	0	112	586	125	1,447		37	337	248	5,211
1985	926	10		0	159		508		50	329	160	2,142
1986	508	109	36	218	1,307	36	871	254	545	799	73	4,756
1987	851	217	0	0	616	91	217	18	0	1,032	0	3,042
1988	1,419	546	18	18	1,892	255	928	146	36	1,255	91	6,604
1989	1,454	115	62	44	890	273	379	26	176	626	106	4,151
1990	336	197	0	35	382	278	69		12	197	59	1,565
1991	712	77	0	15	364	124	116		70	356	116	1,950
1992	471	137	0	23	342	152	182	129	23	562	23	2,044
1993	401	146	42	95	229	63	287	0	28	181	8	1,480
1994	177	90	10	0	291	29	171	0	37	450	14	1,269
1995	608	169	9	81	459	65	4,331	0	0	339	173	3,234
1996	565	166	0	11	244	144	661	0	0	984	33	2,808
1997	372	127	178	0	399	146	1,130	15	0	394	91	2,852
1998	468	75	43	34	688	90	490	73	8	291	0	2,260
1999	475	146	0	0	476	92	885	0	0	566	301	2,941
2000	983	273	0	0	377	118	1,058	13	0	408	49	3,279
2001	714	89	27	0	565	78	653	0	65	899	90	3,180
1997-2001												
Mean	602	142	50	7	501	105	843	20	15	512	106	2,902
2002	1,034	98	52	8	440	27	975	0	45	701	9	3,389

^a Talkeetna River and tributaries including Clear Creek.

^b Includes lakes and streams.

Appendix A37.-Westside Susitna River drainage chum salmon harvest by fishery, 1977-2002.

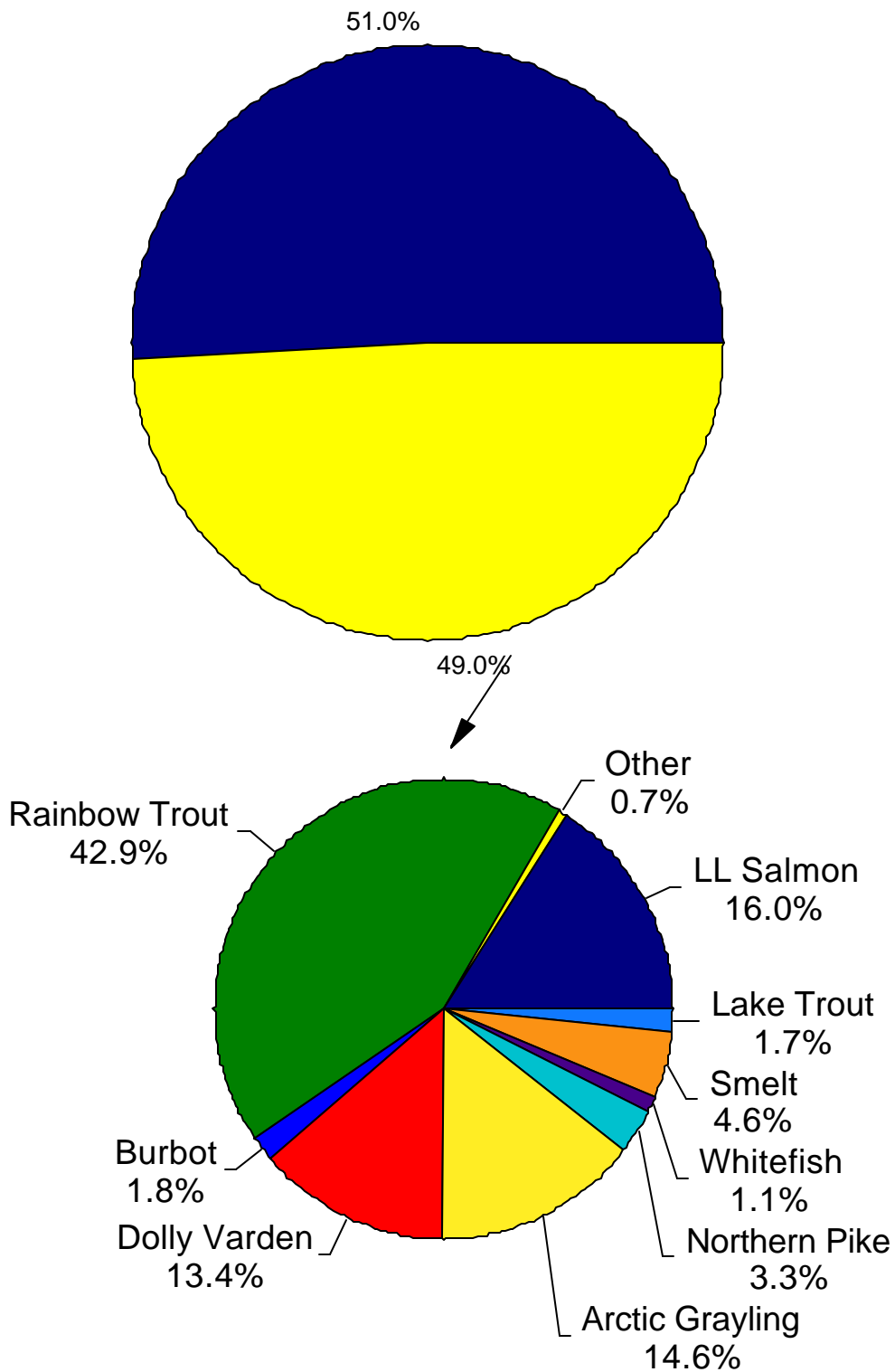
Year	Alexander Creek	Deshka River	Yentna River	Lake Creek	Fish Creek ^a	Talachulitna River	Other Streams ^b	Other Lakes ^b	Total
1977	30	0		162		37	194	0	423
1978	215	0		1,015		234	1,171	0	2,635
1979	45	0		136		55	918	0	1,154
1980	121	0		69		17	284	0	491
1981	10	0		48		0	182	0	240
1982	0	0		199		0	94	0	293
1983	0	0		52		0	346	0	398
1984	37	87		249		75	424	0	872
1985	12	25		124		0	186	0	347
1986	22	34		212	0	45	302	0	615
1987	127	54		36	0	0	471	0	688
1988	18	164		346	0	91	855	0	1,474
1989	45	0	18	163	0	72	90	27	415
1990	12	12	0	70	0	12	128	0	234
1991	61	17	0	44	17	52	0	0	191
1992	23	46	0	121	38	0	76	0	304
1993	88	0	0	25	0	0	34	0	147
1994	52	29	7	67	19	15	123	0	312
1995	272	0	0	181	113	11	14	0	591
1996	22	44	33	132	0	44	22		297
1997	375	44	58	199	56	62	195	0	989
1998	267	0	0	86	0	0	41	0	394
1999	27	0	14	179	45	102	54	0	421
2000	86	84	48	266	97	13	0	0	594
2001	37	16	0	329	48	0	9	0	439
1997-2001									
Mean	158	29	24	212	49	35	60	0	567
2002	42	91	15	125	48	28	28	0	377

^a Fish Lake drainage (Yentna drainage).

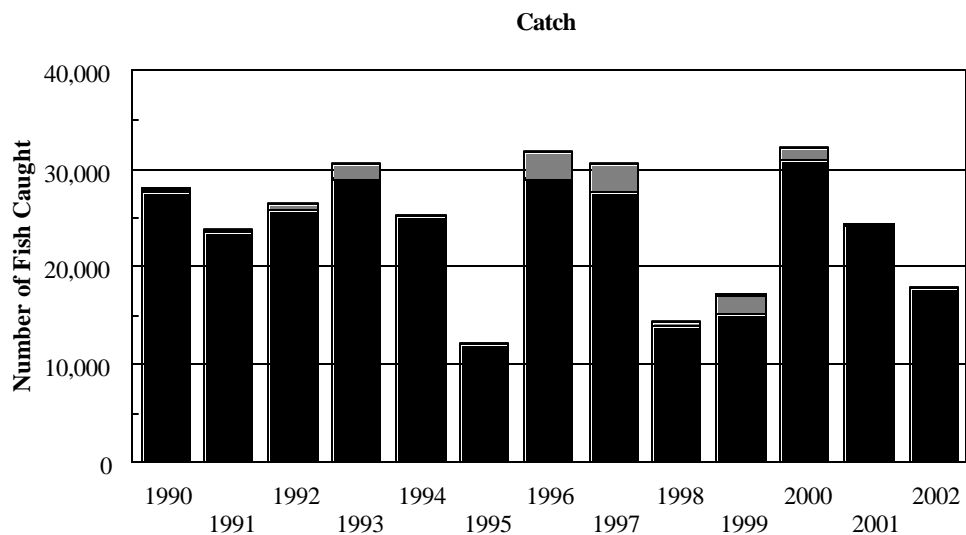
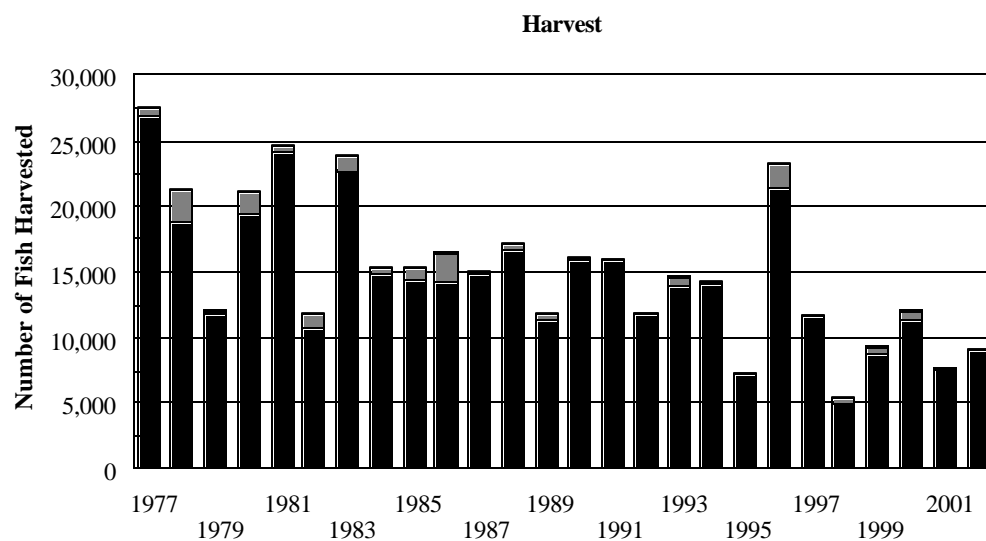
^b May include harvest from West Cook Inlet waters through 1998.

Appendix A38.-West Cook Inlet drainage chum salmon harvest by fishery, 1977-2002.

	Chuitna River	Theodore River	Kustatan River	South of Foreland	N. Foreland	Other	Total
1977	7	0					7
1978	0	0					0
1979	0	0					0
1980	0	0					0
1981	0	0					0
1982	0	0					0
1983	10	0	0				10
1984	0	0	0				0
1985	50	0	0				50
1986	179	34	0				213
1987	0	0	0			54	54
1988	109	0	0				109
1989	0	0	0				0
1990	0	12	0				12
1991	0	0	0				0
1992	0	0	0				0
1993	0	0	0		24		24
1994	0	0	0		0		0
1995	9	0	0		0	18	27
1996	0	0	0		11	44	55
1997	18	0	0		15	0	33
1998	0	0	0		0	0	0
1999	0	0	41		81	0	122
2000	0	0	0		39	0	39
2001	32	0	0		220	0	252
1997-2001							
Mean	10	0	8		71	0	89
2002	0	0	0		10	0	10



Appendix A39.-Northern Cook Inlet Management Area sport fish harvest resident fish composition, 1977-2002.



Knik Arm Drainage
 West Susitna Drainage
 East Susitna Drainage
 West Cook Inlet Drainage

Appendix A40.-Northern Cook Inlet Management Area recreational landlocked salmon harvest and catch, 1977-2002.

Appendix A41.-Knik Arm waters landlocked salmon harvest by fishery, 1977-2002.

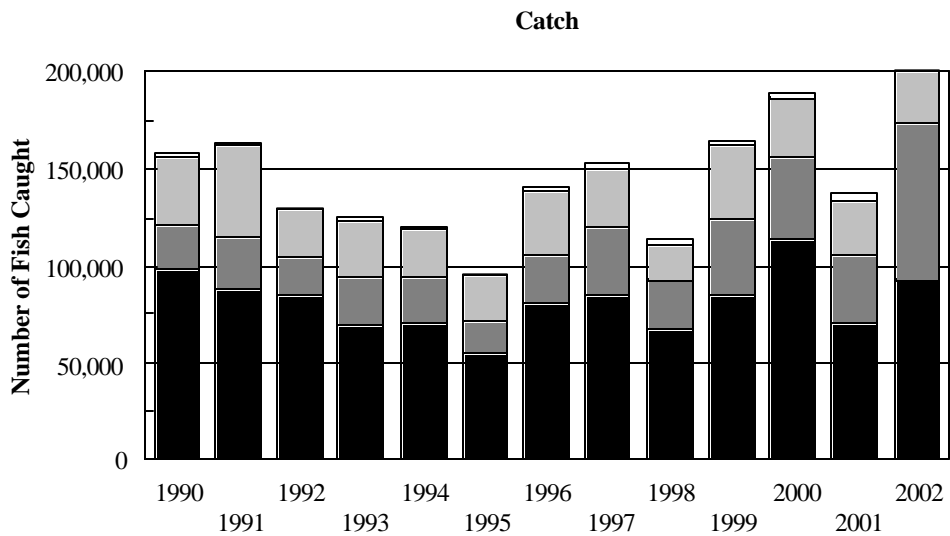
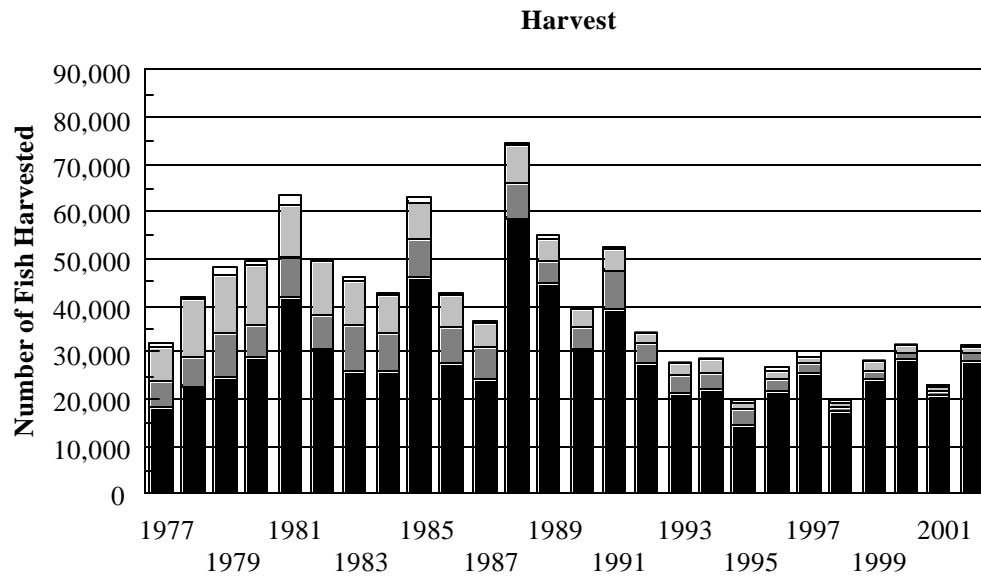
Year	Memory Lake	Lucille Lake	Kepler L. Complex	Finger Lake	Wasilla Lake	Big Lake	Nancy L. Complex	Other Lakes	Total
1977		8,952	528	14,739		721	76	1,901	26,917
1978		4,963	298	8,588		226	262	4,547	18,884
1979		4,272	64	5,209	1,054	145	227	882	11,853
1980		3,633	2,807	10,685	43	189	146	1,997	19,500
1981		7,549	2,577	9,321	182	651	354	3,621	24,255
1982		3,312	681	4,506	42	324	126	1,854	10,845
1983		2,245	2,224	12,714	31	462	231	4,898	22,805
1984	1,663	2,681	773	7,282	100	1,384	50	835	14,768
1985		1,491	4,803	5,618	69	659	0	1,821	14,461
1986		246	2,580	6,244	168	0	34	5,027	14,299
1987		1,521	3,550	8,439	0	0	199	1,178	14,887
1988		618	2,183	11,896	0	0	18	1,873	16,588
1989	1,734	663	1,462	3,805	0	0	1,108	2,269	11,041
1990		279	2,314	10,453	0	0	295	2,609	15,950
1991	1,628	899	2,188	6,818	0	2,493	119	1,595	15,740
1992	1,525	173	1,222	4,965	0	1,979	162	1,849	11,875
1993	877	45	1,140	7,898	0	2,566	11	1,292	13,829
1994	1,902	0	1,821	7,480	0	2,004	129	817	14,153
1995	234	25	210	5,842	0	219	0	755	7,285
1996	1,177		873	14,351	0	2,319	0	2,644	21,364
1997	595	0	2,081	7,791	0	345	122	665	11,599
1998		0	294	2,218	0	342	42	2,161	5,057
1999	77		278	6,770		280		1,269	8,674
2000			2,282	7,023	0	391	24	1,513	11,233
2001	1,134		1,788	3,189	0	302	0	1,143	7,556
1997-2001									
Mean	602	0	1,345	5,398	0	332	47	1,350	8,824
2002	165		738	5,954		311	0	1,969	9,137

Appendix A42.-Knik Arm waters landlocked salmon catch by fishery, 1990-2002.

Year	Memory Lake	Lucille Lake	Kepler L. Complex	Finger Lake	Wasilla Lake	Big Lake	Nancy L. Complex	Other Lakes	Total
1990		410	4,414	17,066	0	0	525	5,350	27,765
1991	3,358	899	3,596	9,243	0	3,816	119	2,613	23,644
1992	4,056	400	4,673	10,190	0	3,483	162	2,779	25,743
1993	2,046	45	2,516	18,247	0	3,935	78	2,258	29,125
1994	2,739	9	3,624	13,749	0	2,768	165	2,178	25,232
1995	415	184	336	8,446	0	1,053	0	1,718	12,152
1996	1,298		2,099	18,209	0	3,568	0	3,956	29,130
1997	1,512	0	4,037	17,933	0	1,335	122	2,956	27,895
1998		0	967	5,456	0	1,084	42	6,358	13,907
1999	232		1,315	9,972		676		2,902	15,097
2000		0	6,891	16,579	0	1,013	48	6,569	31,100
2001	3,428	0	3,327	14,973	0	766	0	1,734	24,228
1997-2001									
Mean	1,724	0	3,307	12,983	0	975	53	4,104	22,445
2002	165	0	2,320	12,337	0	629	0	2,388	17,839

**Appendix A43.-Eastside Susitna River drainage
landlocked salmon harvest and catch, 1977-2002.**

Year	Lakes Harvest	Lakes Catch
1977	512	
1978	2,368	
1979	291	
1980	1,663	
1981	278	
1982	996	
1983	1,049	
1984	660	
1985	884	
1986	2,106	
1987	145	
1988	619	
1989	536	
1990	151	252
1991	14	259
1992	86	746
1993	738	1,263
1994	45	199
1995	33	135
1996	1,986	2,495
1997	122	2,578
1998	320	438
1999	703	2,079
2000	831	1,145
2001	0	0
1997-2001 mean	395	1,248
2002	0	40



Knik Arm Drainage
 East Susitna Drainage
 West Susitna Drainage
 West Cook Inlet Drainage

Appendix A44.-Northern Cook Inlet Management Area recreational rainbow trout harvest and catch, 1977-2002.

Appendix A45.-Knik Arm drainage rainbow trout harvest by fishery, 1977-2002.

Year	Little Susitna	Knik River ^a	Wasilla Creek	Cotton- wood Ck	Big Lake ^b	Wasilla Lake	Finger Lake	Kepler L. Complex	Big Lake	Lucille Lake	Kalmbach Lake	Carpenter Lake	Knik Lake	Memory Lake	Seymour Lake	Bonnie Lakes	Nancy L. Complex	Other Streams ^c	Other Lakes	Total
1977	843		252				0	1,822	3,906	0							2,642	9,150		18,615
1978	886		45				0	5,180	4,845	0							1,853	10,330		23,139
1979	1,391		500	1,736		2,782	0	3,372	2,882	0							2,909	9,271		24,843
1980	852		121	1,085		2,084	0	5,906	5,398	0							2,540	11,382		29,368
1981	2,692	0	38	824		2,261	0	8,200	9,810	0							4,723	13,201		41,749
1982	1,551	0	63	786		2,243	0	7,325	9,369	0							2,840	6,372		30,549
1983	1,290	0	84	556		1,804	0	3,986	4,102	0							4,846	1,490	8,263	26,421
1984	860	549	312	748		848	0	9,128	4,938	0				382			1,771	1,247	5,635	26,418
1985	1,294	780	260	590	347	1,231	3,381	14,011	6,953	35							2,514	1,197	13,838	46,431
1986	1,407	235	11	145	391	1,653	3,172	7,249	5,105	168					726	736	2,200	815	3,677	27,690
1987	447	58	126	301	204	680	2,476	7,758	2,476	3,379							2,728	427	3,603	24,663
1988	1,273	382	582	782	309	891	5,421	16,462	4,220	8,495						910	5,439	964	12,479	58,609
1989	599	0	91	163	1,063	972	2,788	18,233	5,402	972	1,625		872	590	445	945	3,696	117	5,945	44,518
1990	673	0	131	410	361	443	2,544	10,223	3,282	246						738	2,182	1,131	8,335	30,699
1991	781	0	28	628	209	1,953	2,539	8,496	4,883	600			600	1,046		363	2,818	545	14,147	39,636
1992	720	0	24	404	791	483	1,860	6,839	2,090	309	610	1,116	887	364	459	1,045	2,945	8	7,041	27,995
1993	186	0	30	475	228	630	2,037	2,930	2,073	424				890	734	399	2,116	248	8,165	21,565
1994	300	0	135	425	393	735	2,666	3,551	2,260	156				323	570	1,184	1,300	56	8,392	22,446
1995	326	0	37	413	150	390	1,887	2,648	1,371	249	543	393		395		365	785	119	4,797	14,878
1996	121	0	40	248	74	1,735	2,316	5,092	2,260		221			53			753	189	8,678	21,780
1997	348	0	29	215	321	475	3,720	8,407	2,083	335				406		520	963	72	7,806	25,695
1998	59	0	0	390	412	483	1,804	3,167	1,358	214			984				321	42	8,459	17,693
1999	253	0	0	93	2,114	762	3,301	5,391	1,501				713			572	611	81	9,135	24,527
2000	252	0		218	355	1,037	3,511	7,469	1,475	116			1,569			223	1,900	84	10,536	28,745
2001	253	0		613	182	305	1,534	4,197	905	1,107	92	42	634	604	117	81	1,349	25	9,021	21,061
1997-2001																				
Mean	233	0	10	306	677	612	2,774	5,726	1,464	443	92		975	505		349	1,029	61	8,991	23,544
2002	154	0	0	290	236	329	5,608	3,498	1,521	989	359	29	907	408	17	223	916	535	12,306	28,325

^a Knik River and tributaries including Jim Creek.

^b Big Lake drainage streams.

^c Includes lakes and streams, 1977-1982.

Appendix A46.-Knik Arm drainage rainbow trout catch by fishery, 1990-2002.

	Little	Knik	Wasilla	Cotton-	Big	Wasilla	Finger	Kepler L.	Big	Lucille	Kalmbach	Carpenter	Knik	Memory	Seymour	Bonnie	Nancy L.	Other	Other
Year	Susitna	River ^a	Creek	wood Ck	Lake ^b	Lake	Lake	Complex	Lake	Lake	Lake	Lake	Lake	Lake	Lake	Lakes	Complex	Streams	Lakes
1990	1,953	0	607	2,183	2,100	1,707	5,645	35,085	8,123	1,034						2,133	7,466	5,448	25,236
1991	1,507	0	28	795	614	2,916	4,576	18,986	10,588	670			2,246	1,576		893	6,348	2,371	34,531
1992	2,319	0	40	1,987	2,375	1,544	6,087	24,887	5,296	602	3,103	1,868	1,504	1,314	712	3,309	7,765	64	20,555
1993	1,308	0	195	3,987	1,445	1,497	7,272	16,151	4,845	651				1,523	1,224	2,356	5,130	367	21,684
1994	1,198	0	312	911	2,295	2,142	6,168	16,534	5,502	302				1,230	1,413	2,657	4,372	282	24,932
1995	1,783	0	92	1,015	412	1,001	5,792	16,634	3,565	514	1,067	824		863		1,331	2,344	209	18,662
1996	323	0	40	1,153	171	4,384	6,494	24,201	8,023		252			727			1,966	409	32,614
1997	1,029	0	53	992	476	938	9,218	27,065	6,357	610				968		1,253	3,098	359	32,862
1998	319	0	94	1,878	1,276	1,405	6,789	16,175	5,298	1,385		3,324	3,324				1,173	151	27,570
1999	1,658	0	49	1,903	2,243	2,287	5,602	20,169	6,569				1,746			1,658	3,538	421	36,848
2000	1,567			957	1,081	2,144	9,327	27,859	7,212	1,161			4,163			1,834	7,273	443	48,992
2001	1,794	0	58	3,016	548	1,499	4,313	16,349	4,546	3,616	215	1,040	1,447	2,098	175	328	3,874	351	25,554
1997-2001																			
Mean	1,273	0	64	1,749	1,125	1,655	7,050	21,523	5,996	1,693	215	2,182	2,670	1,533		1,268	3,791	345	34,365
2002	1,319	0	0	1,628	2,114	896	9,753	17,330	4,601	6,193	755	87	2,037	1,804	268	586	4,361	934	38,854

^a Knik River and tributaries including Jim Creek.

^b Big Lake drainage streams.

Appendix A47.-Eastside Susitna River drainage rainbow trout harvest by fishery, 1977-2002.

Year	Willow Creek	Little Willow	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River ^a	Other Streams ^b	Other Lakes	Total
1977	1,055	224			368		727			450	2,401		5,225
1978	913	334			470		1,193			1,501	1,519		5,930
1979	1,500	345		282	573		1,536		382	1,373	3,472		9,463
1980	1,168	353		154	385		854		193	950	2,658		6,715
1981	1,475	374		326	201		1,111		249	1,226	3,851		8,813
1982	891	335		189	325		2,243		545	608	2,400		7,536
1983	1,689	514	357	231	409		1,332		178	1,836	1,656	1,437	9,639
1984	1,359	1,047	449	175	349	125	1,197		374	910	598	1,073	7,656
1985	2,046	746		139	191		1,248		416	832	1,266	988	7,872
1986	545	218	436	0	218	145	399	73	581	1,234	1,126	3,086	8,061
1987	1,141	1,213	471	308	507	272	417	36	72	869	471	870	6,647
1988	1,128	400	255	73	236	291	1,492	73	55	1,110	636	1,873	7,622
1989	906	277	675	37	240	240	407	37	259	822	443	629	4,972
1990	1,008	286	352	101	286	353	487		168	1,109	320	538	5,008
1991	2,044	430	261	384	569	354	615	231	0	1,076	999	891	7,854
1992	712	293	87	47	55	79	467	16	79	665	404	1,044	3,948
1993	934	264	49	148	338	127	271	0	59	242	670	611	3,713
1994	1,161	337	114	53	254	173	241	0	8	262	467	588	3,658
1995	351	250	0	56	79	28	285	0	0	287	442	1,360	3,138
1996	551	113	63	21	73	68	443	0	95	284	354	445	2,510
1997	0	182	137	24	208	179	0	0	24	226	636	708	2,324
1998	0	113	42	0	157	42	0	17	144	179	173	101	968
1999	0	77	82	0	94	152	0	24	0	207	489	630	1,755
2000	91	48	61	12	189	36	0	0	7	197	265	615	1,521
2001	119	42	22	42	131	77	0	0	8	92	315	264	1,112
1997-2001													
Mean	42	92	69	16	156	97	0	8	37	180	376	464	1,536
2002	209	54	37	0	248	58	0	0	0	90	150	905	1,751

^a Talkeetna River and tributaries including Clear Creek.

^b Includes lakes and streams, 1977-1982.

Appendix A48.-Eastside Susitna River drainage rainbow trout catch by fishery, 1990-2002.

Year	Willow Creek	Little Willow	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River ^a	Other Streams	Other Lakes	Total
1990	3,914	689	1,630	689	840	1,378	1,277		622	4,788	3,913	2,066	21,806
1991	3,965	1,230	692	446	1,076	2,183	2,136	307	154	5,072	6,347	2,721	26,329
1992	3,206	1,124	293	142	633	617	2,501	40	103	5,581	2,754	2,921	19,915
1993	3,934	829	995	217	967	2,054	2,034	49	407	5,685	4,441	2,628	24,240
1994	4,673	2,024	319	172	757	1,566	1,807	56	56	4,687	2,838	4,664	23,619
1995	2,340	730	178	127	506	280	1,245	47	150	3,510	3,078	3,172	15,363
1996	4,766	1,077	654	21	2,077	384	2,828	0	179	6,790	3,049	2,983	24,808
1997	5,198	1,415	2,177	60	2,008	2,139	3,473	179	60	7,040	5,355	5,638	34,742
1998	4,487	1,259	1,593	93	4,885	333	4,138	135	186	4,560	2,492	2,080	26,241
1999	11,965	2,484	1,016	72	1,415	960	5,337	140	465	7,402	5,188	3,309	39,753
2000	8,836	1,920	2,107	145	2,173	3,175	7,236	569	132	6,669	3,740	5,901	42,603
2001	11,510	1,414	882	184	763	1,103	5,678	123	17	5,937	2,844	2,449	32,904
1997-2001													
Mean	8,399	1,698	1,555	111	2,249	1,542	5,172	229	172	6,322	3,924	3,875	35,249
2002	22,650	2,821	1,402	105	9,308	4,063	19,170	45	66	11,312	5,164	4,084	80,190

^a Talkeetna River and tributaries including Clear Creek.

Appendix A49.-Westside Susitna River drainage rainbow trout harvest by fishery, 1977-2002.

Year	Alexander Creek	Deshka River	Rabideux Creek	Yentna River	Peters Creek	Lake Creek	Fish Creek ^a	Judd Lake	Other Streams ^b	Other Lakes ^b	Total
1977	1,251	1,556				1,853		68	1,677	1,067	7,472
1978	2,640	3,634				2,721		0	1,528	1,772	12,295
1979	1,182	3,182				4,527		100	2,709	855	12,555
1980	1,945	4,305				2,144		86	2,101	2,204	12,785
1981	2,290	3,631				2,874			872	1,629	11,296
1982	2,505	3,804				3,134			597	1,425	11,465
1983	608	2,434				2,287		0	2,917	1,007	9,253
1984	785	2,120			611	3,080		0	1,084	399	8,079
1985	1,318	3,104				1,439			1,387	866	8,114
1986	1,553	3,038				961	45	0	614	457	6,668
1987	978	3,006				1,902	398	0	1,357	379	8,020
1988	1,419	4,075			73	1,146	109	18	672	546	8,058
1989	486	1,676	0	38	162	676	428	105	576	781	4,928
1990	640	707	17	0	303	808	135		810	540	3,960
1991	917	1,275	0	140	295	498	358	0	810	233	4,526
1992	198	459	24	127	214	214	79		349	364	2,028
1993	128	452		36	49	184	172		1,163	297	2,481
1994	207	415		123	146	714	93		613	215	2,526
1995	86	183		140	46	565	360		588	89	2,057
1996	95	321		146	227	616	51		468		1,924
1997	0	264		0	80	436	56		616		1,452
1998	0	218		0		285	124		454		1,081
1999	0	561		59	70	640	168		368		1,866
2000	0	205		151	71	567	85		147	0	1,226
2001	0	270		156	56	183	33		20	41	759
1997-2001											
Mean	0	304		73	69	422	93		321	21	1,277
2002	13	417		0	29	445	119		186	0	1,209

^a Fish Lake drainage (Yentna River drainage).

^b May include harvest from West Cook Inlet waters through 1995.

Appendix A50.-Westside Susitna River drainage rainbow trout catch by fishery, 1990-2002.

Year	Alexander Creek	Deshka River	Rabideux Creek	Yentna River	Peters Creek	Lake Creek	Fish Creek ^a	Talachulitna River	Other Streams ^b	Other Lakes ^b	Total
1990	3,065	6,197	34	135	1,532	8,757	707	10,761	2,474	1,431	35,093
1991	2,301	5,303	16	295	1,182	12,969	1,415	18,489	2,863	2,037	46,870
1992	1,124	3,396	142	214	633	5,399	768	7,892	2,123	1,930	23,621
1993	992	5,772		101	331	9,232	647	8,824	3,329	683	29,911
1994	1,075	3,345		201	646	10,387	740	6,646	1,536	763	25,339
1995	472	2,288		1,638	644	5,546	596	6,286	3,499	2,463	23,432
1996	195	4,166		507	709	7,655	572	16,488	3,311		33,603
1997	1,034	2,355		232	331	9,378	1,379	12,535	2,973		30,217
1998	490	1,594		846		6,668	641	4,336	2,795		17,370
1999	643	5,323		446	152	15,310	2,144	11,072	2,774		37,864
2000	759	6,146		1,774	1,435	12,156	833	5,209	1,086		29,398
2001	1335	8,300		1,879	375	7,739	1335	7,027	727	75	28,792
1997-2001											
Mean	852	4,744		1,035	573	10,250	1,266	8,036	2,071		28,728
2002	728	4,464		518	1,954	11,622	679	6,283	3,497	0	29,745

^a Fish Lake drainage (Yentna River drainage).

^b May include harvest from West Cook Inlet waters through 1995.

Appendix A51.-West Cook Inlet drainage rainbow trout harvest by fishery, 1977-2002.

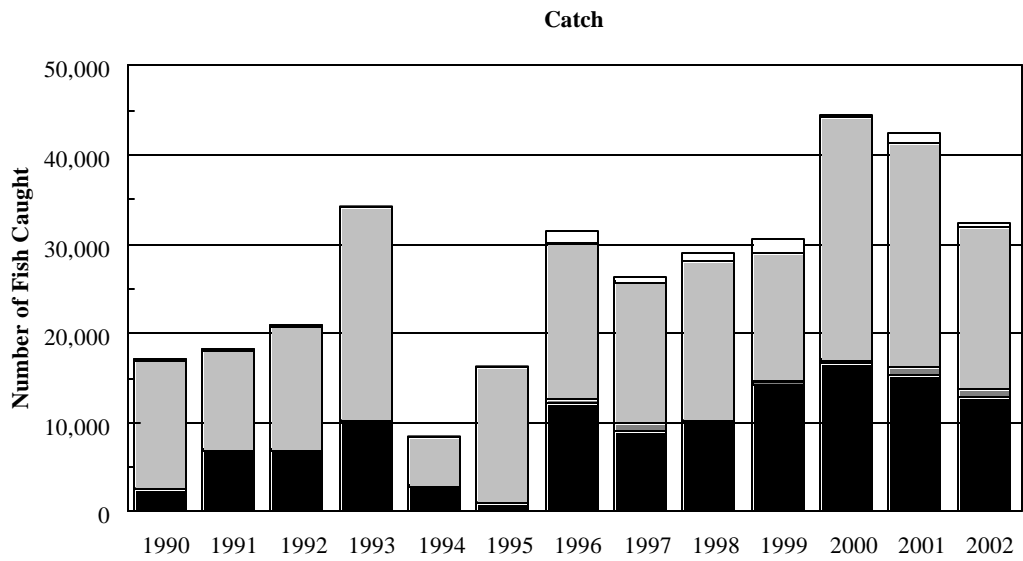
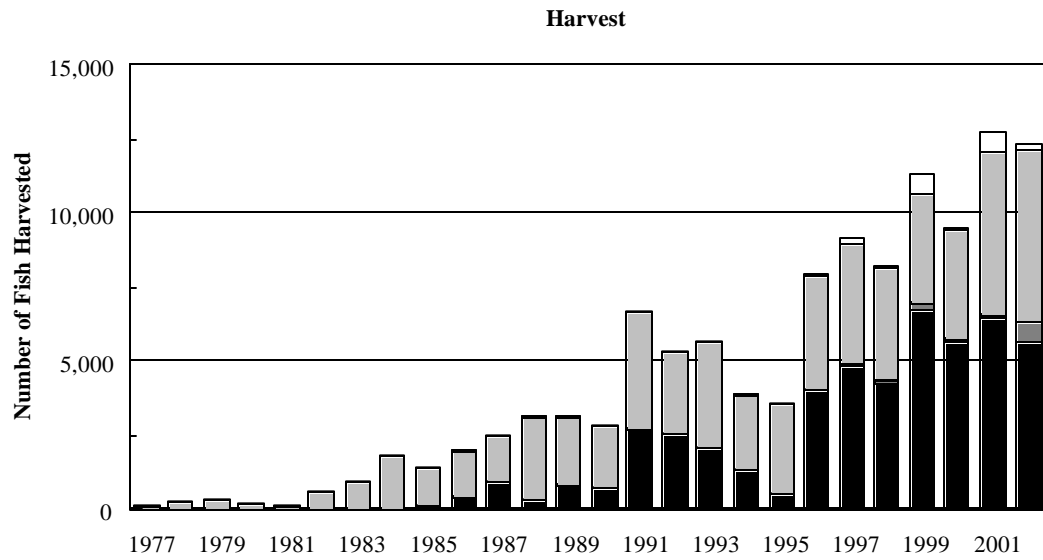
	Chuitna River	Theodore River	Lewis River	Kustatan River	Big River Lakes	Susitna R- N. Foreland	South of N. Foreland	Other ^a	Total
1977	509	415	34						958
1978	443	226	54						723
1979	336	609	118						1,063
1980	301	250	9						560
1981	642	1,092							1,734
1982	199	199							398
1983	441	430			0				871
1984	424	274			50				748
1985	590	225	87		0				902
1986	67	145			11				223
1987	344	199	36		0				579
1988	218	382	18		55				673
1989	162	305	19		10			48	544
1990	286	135	17		17				472
1991	171	109	124		93				497
1992	79	63			40			8	190
1993	29	27	0		0		86	49	191
1994	70	0			16		32	107	225
1995	9	40			17		0	45	111
1996	249	55			32	11	0	92	439
1997	155	203			0	48	24	188	618
1998	32	25			0	132	0	0	189
1999	47	0	0		0	65	95	70	277
2000	70	55			26	48	12		211
2001	165	53			0	0	52	0	270
1997-2001									
Mean	94	67	0	5	0	59	37	65	313
2002	18	41	0	0	0	27	0	150	236

^a Includes lakes and streams.

Appendix A52.-West Cook Inlet drainage rainbow trout catch by fishery, 1990-2002.

	Chuitna River	Theodore River	Lewis River	Kustatan River	Big River Lakes	Susitna R- N. Foreland	South of N. Foreland	Other ^a	Total
1990	1,126	842	370	17	84				2,439
1991	575	482	233	342					1,632
1992	309	435		71				16	831
1993	733	353	69	0	0	256	731	256	2,398
1994	161	229		89	0	139	64	139	821
1995	127	260		40	19	85	12	85	628
1996	860	256		74	0	158	53	177	1,578
1997	828	801	0	12	270	245	24	713	2,893
1998	354	720		23	0	264	0	1,738	3,099
1999	1,141	689	0	12	58	391	151	93	2,535
2000	1,384	353		321	12	656	111		2,837
2001	2,302	565	0	56	0	299	119	0	3,341
1997-2001									
Mean	1,202	626	0	85	68	371	81	636	2,941
2002	143	512	50	78	0	312	292	1695	3,082

^a Includes lakes and streams.



■ Knik Arm Drainage ■ East Susitna Drainage
 ■ West Susitna Drainage □ West Cook Inlet Drainage

Appendix A53.-Northern Cook Inlet Management Area recreational northern pike harvest and catch, 1977-2002.

Appendix A54.-Knik Arm drainage northern pike harvest by fishery and total catch, 1985-2002.

Year	Little Susitna	Knik River ^a	Figure 8 Lake	Cottonwood Creek	Big Lake ^b	Flathorn Lake	Nancy Lake ^c	Other ^d	Harvest Total	Catch Total
1985	0	0	0	0	0		156	0	156	
1986	0	0	0	0	0		458	0	458	
1987	0	0	0	0	0		924	0	924	
1988	0	0	0	0	0		364	0	364	
1989	0	0	0	0	0		863	0	863	
1990	0	0	0	0	0		754	0	754	2,593
1991	0	0	0	0	0		2,406	303	2,709	7,021
1992	0	0	0	0	0		2,101	504	2,605	7,097
1993	0	0	0	0	0		1,438	664	2,102	10,141
1994	0	0	0	0	0		789	539	1,328	2,816
1995	29	0	0	0	0		10	483	522	825
1996	0	0	0	0	13	1,689	1,943	376	4,021	12,220
1997	0	0	1,354	0	0	2,007	1,340	157	4,858	9,137
1998	42	0	766	0	270	910	2,023	261	4,272	10,223
1999	0	0	0	0	226	602	3,888	2,069	6,785	14,231
2000	21	0	992	0	601	1,402	2,475	207	5,698	16,717
2001	52	0	1369	0	110	1,081	2,824	1108	6,544	15,457
1997-2001										
Mean	23	0	896	0	241	1,200	2,510	760	5,631	13,153
2002	76	0	1,258	0	0	2,139	1,773	470	5,716	13,079

Note: Northern pike grouped with other fish prior to 1985.

^a Knik River and tributaries including Jim Creek.

^b Big Lake and drainage streams.

^c Nancy Lake complex lakes.

^d Includes lakes and streams.

Appendix A55.-Westside Susitna River drainage northern pike harvest by fishery, 1977-2002.

Year	Alexander Creek	Deshka River	Peters Creek	Lake Creek	Fish Creek ^a	Trapper Lake	Other Streams ^b	Other Lakes ^b	Total
1977	0	0		42			0	90	132
1978	0	0		9			0	307	316
1979	0	0		209			0	173	382
1980	0	0		103			0	129	232
1981	0	0		0			0	125	125
1982	0	0		52			0	555	607
1983	0	0		52			105	787	944
1984	0	0	0	50			1,136	635	1,821
1985	17	0		52			156	1,023	1,248
1986	514	0		0	491		45	469	1,519
1987	254	0		0	326		0	960	1,540
1988	800	0	0	36	1,455		346	181	2,818
1989	819	0	0	0	676		381	381	2,257
1990	404	0	0	320	370		152	842	2,088
1991	700	0	0	104	921	506	13	1,687	3,931
1992	641	0	0	85	359	410	146	1,136	2,777
1993	1,202	0	0	0	1,080	694	634	9	3,619
1994	1,093	78	0	82	411	558	298	36	2,556
1995	1,067	0	0	125	257	862	422	291	3,024
1996	813	161	0	80	328	1,602	918		3,902
1997	1,607	137	0	29	345	986	922		4,026
1998	1,869	18	0	95	224	876	671		3,753
1999	806	283	0	16	375	499		1,707	3,686
2000	1,037	462	0	127	328		1,738		3,692
2001	2,404	400	0	673	784	388	830		5,479
1997-2001									
Mean	1,545	260	0	188	411	687	1,040	1,707	4,127
2002	2,014	226	0	76	461	163	2,054	871	5,865

^a Fish Lake drainage (Yentna River drainage).

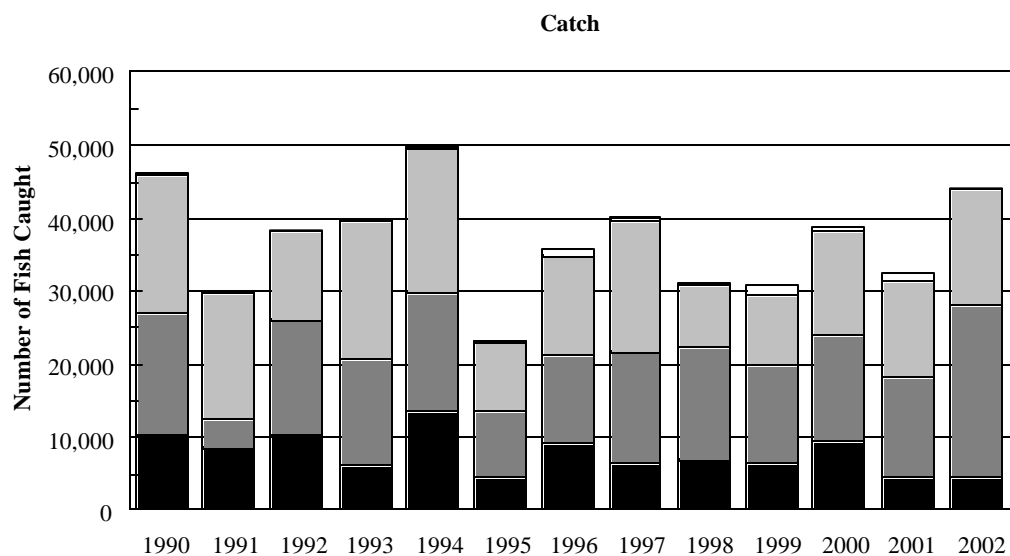
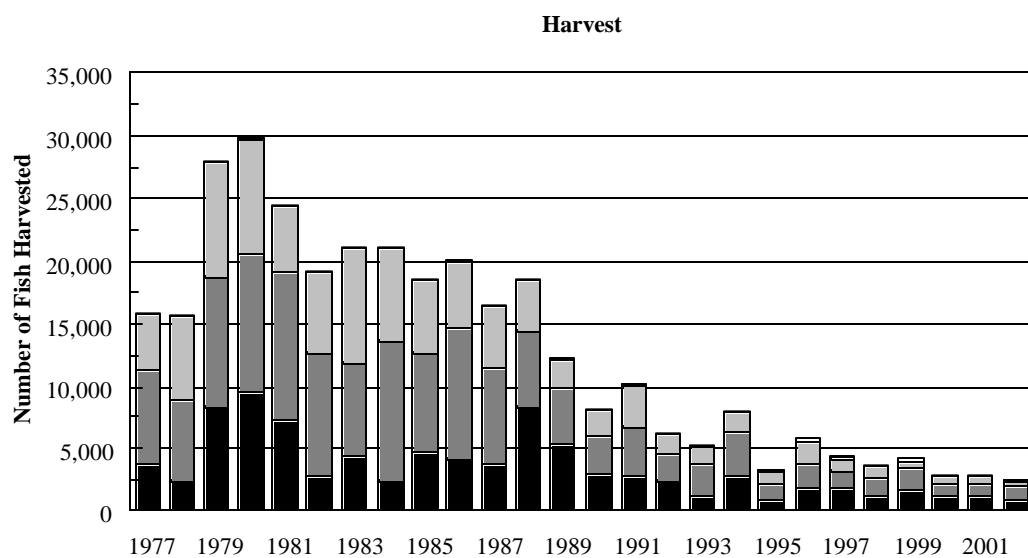
^b May include harvest from West Cook Inlet waters through 1998.

Appendix A56.-Westside Susitna River drainage northern pike catch by fishery, 1990-2002.

Year	Alexander Creek	Deshka River	Peters Creek	Lake Creek	Fish Creek ^a	Trapper Lake	Other Streams ^b	Other Lakes ^b	Total
1990	3,149	0	0	589	3,065		691	6,971	14,465
1991	2,866	0	0	376	2,490	1,997	13	3,451	11,193
1992	3,912	0	0	196	1,170	1,349	693	6,508	13,828
1993	12,172	0	0	596	3,885	4,128	3,098	198	24,077
1994	2,306	96	0	318	839	881	832	164	5,436
1995	7,651	0	0	334	1,288	2,359	2,862	920	15,414
1996	7,814	172	0	306	1,347	6,033	1,985		17,657
1997	9,362	272	0	81	1,804	1,948	246	2,175	15,888
1998	10,386	113	0	1,015	418	1,729	556	3,704	17,921
1999	5,018	555	0	284	1,269	3,162		4,060	14,348
2000	13,834	753	0	426	1,870		2,887	7,611	27,381
2001	18,103	962	0	1030	1,467	891	2,694	0	25,147
1997-2001									
Mean	11,341	531	0	567	1,366	1,933	1,596	3,510	20,137
2002	9,627	297	0	237	2,266	999	4,142	882	18,450

^a Fish Lake drainage (Yentna River drainage).

^b May include harvest from West Cook Inlet waters through 1995.



Knik Arm Drainage
 East Susitna Drainage
 West Susitna Drainage
 West Cook Inlet Drainage

Appendix A57.-Northern Cook Inlet Management Area recreational Arctic grayling harvest and catch, 1977-2002.

Appendix A58.-Knik Arm drainage Arctic grayling harvest by fishery, 1977-2002.

Year	Little Susitna R.	Finger Lake	Kepler L. Complex	Bonnie Lakes	Nancy L. Complex	Other Streams ^a	Other Lakes	Total
1977	190	0	72		0	3,654		3,916
1978	54	0	985		0	1,374		2,413
1979	36	0	2,372		0	5,963		8,371
1980	181	0	1,016		0	8,317		9,514
1981	153	0	671		0	6,572		7,396
1982	388	0	1,027		0	1,509		2,924
1983	199	0	514		0	398	3,314	4,425
1984	100	0	486		12	125	1,757	2,480
1985	191	0	277		0	260	4,040	4,768
1986	223	0	860	1,396	67	89	1,598	4,233
1987	217	54	942		307	0	2,373	3,893
1988	0	0	5,366	473	273	273	1,982	8,367
1989	73	0	3,351	436	90	182	1,297	5,429
1990	115	82	837	263	131	705	935	3,068
1991	60	111	1,338	433	40	80	754	2,816
1992	15	23	1,187	451	68	15	752	2,511
1993	519	73	513	56	0	42	140	1,343
1994	67	292	1,261	97	90	286	805	2,898
1995	40	99	511	123	0	0	45	818
1996	36	256	946		0	396	306	1,940
1997	50	294	661	601	0	30	302	1,938
1998	0	82	557		0	0	661	1,300
1999	0	147	293	142	0	795	363	1,740
2000	96	369	287	0	0	72	370	1,194
2001	57	141	698	19	0	67	233	1,215
1997-2001								
Mean	41	207	499	191	0	193	386	1,477
2002	0	176	188	136	0	0	381	881

^a Includes lakes, 1977-1982.

Appendix A59.-Knik Arm drainage Arctic grayling catch by fishery, 1990-2002.

Year	Little Susitna R.	Finger Lake	Kepler L. Complex	Bonnie Lakes	Nancy L. Complex	Other Streams	Other Lakes	Total
1990	738	164	3,216	985	197	1,673	3,215	10,188
1991	80	121	3,591	523	40	110	4,155	8,620
1992	406	23	6,800	797	120	31	2,029	10,206
1993	831	446	4,248	233	119	42	430	6,349
1994	160	1,020	8,763	806	128	600	2,067	13,544
1995	49	716	2,597	567	18	18	564	4,529
1996	36	2,257	5,123		0	590	1,218	9,224
1997	170	875	2,919	1,179	28	469	957	6,597
1998	0	427	3,237		80	0	3,130	6,874
1999	0	188	2,156	1,599	56	901	1,690	6,590
2000	130	792	5,605	904	50	373	1,697	9,551
2001	238	228	1,917	19	77	769	1,222	4,470
1997-2001								
Mean	108	502	3,167	925	58	502	1,739	6,816
2002	15	389	1,277	349	378	100	2,120	4,628

Appendix A60.-Eastside Susitna River drainage Arctic grayling harvest by fishery, 1977-2002.

Year	Willow Creek	Little Willow	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River ^a	Other Streams ^b	Other Lakes	Total
1977	1,483	934			317		379			486	3,870		7,469
1978	208	334			461		958			859	3,770		6,590
1979	2,654	1,091		345	645		791		0	1,045	4,918		10,489
1980	1,868	1,156		353	725		655		0	1,348	4,854		10,959
1981	1,188	623		144	872		891		58	996	7,089		11,860
1982	1,520	377		252	723		849		42	943	5,041		9,747
1983	1,794	84	514	315	839		336		31	1,553	1,625	387	7,478
1984	2,157	1,259	1,397	162	761	125	786		287	1,784	2,042	462	11,222
1985	1,630	1,231		104	815		503		0	1,665	1,527	347	7,822
1986	218	581	436	0	218	73	472		363	3,049	4,355	581	10,346
1987	743	761	851	72	924	163	254	0	18	2,481	868	433	7,568
1988	1,692	455	418	109	400	127	418	0	36	1,000	1,092	273	6,020
1989	721	286	517	148	286	74	92	0	9	1,063	831	535	4,562
1990	1,378	50	202	17	118	34	17		0	605	304	185	2,910
1991	720	503	149	46	274	206	423	0	0	617	743	171	3,875
1992	406	240	53	23	143	75	60	0	0	383	587	219	2,189
1993	520	101	28	75	450	26	90	65	19	471	255	301	2,401
1994	467	113	142	0	159	28	80	0	0	431	1,662	402	3,484
1995	99	150	106	54	70	0	70	0	0	390	244	203	1,486
1996	214	158	0	0	0	73	121	0	0	320	825	202	1,913
1997	0	108	91	0	233	122	67	0	54	146	473	93	1,387
1998	0	8	215	0	91	42	0	0	63	39	712	243	1,413
1999	0	23	0	0	179	0	0	0	0	224	824	364	1,614
2000	0	19	57	0	57	19	0	0	0	84	502	241	979
2001	0	26	26	0	160	9	0	0	0	123	627	65	1,036
1997-2001													
Mean	0	37	78	0	144	38	13	0	23	123	628	201	1,286
2002	0	14	9	0	223	9	0	0	0	187	318	405	1,165

^a Talkeetna River and tributaries including Clear Creek.

^b Includes lakes and streams, 1977-1982.

Appendix A61.-Eastside Susitna River drainage Arctic grayling catch by fishery, 1990-2002.

Year	Willow Creek	Little Willow	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River ^a	Other Streams	Other Lakes	Total
1990	3,814	185	756	50	739	454	470		0	5,443	3,159	1,764	16,834
1991	983	823	263	69	1,223	1,074	572	0	0	4,446	2,056	812	3,875
1992	2,337	631	270	789	421	503	195	0	8	2,660	5,777	2,427	16,018
1993	1,531	333	411	261	952	380	313	467	271	5,521	3,032	895	14,367
1994	1,382	753	186	96	512	273	192	0	336	3,303	4,804	4,317	16,154
1995	592	353	220	54	561	114	202	53	0	3,039	2,677	1,258	9,123
1996	1,070	808	387	0	295	554	265	0	0	3,505	2,503	2,832	12,219
1997	514	483	1,226	0	2,398	947	670	0	135	2,012	4,635	2,268	15,288
1998	1,081	505	636	59	2,812	328	488	0	71	3,481	4,124	1,902	15,487
1999	1,512	583	395	213	1,103	248	304	0	0	1,949	2,968	4,049	13,324
2000	2,105	421	1,005	0	1,014	297	556	0	117	2,326	4,278	2,567	14,686
2001	2,073	745	189	10	1,157	129	864	43	86	3,489	4,032	968	13,785
1997-2001													
Mean	1,457	547	690	56	1,697	390	576	9	82	2,651	4,007	2,351	14,514
2002	3,169	587	325	103	3,685	2,518	1,363	0	0	3,505	4,190	4,075	23,520

^a Talkeetna River and tributaries including Clear Creek.

Appendix A62.-Westside Susitna River drainage Arctic grayling harvest by fishery, 1977-2002.

Year	Alexander Creek	Deshka River	Rabideux Creek	Moose Creek	Yentna River	Peters Creek	Lake Creek	Fish Creek ^a	Talachulitna River	Judd Lake	Other Streams ^b	Other Lakes ^b	Total
1977	280	631					1,599		832	45	619	408	4,414
1978	1,871	579					2,115		99	0	1,953	108	6,725
1979	745	1,463					1,963		664	45	3,691	518	9,089
1980	1,145	1,817					1,972		1,713	232	1,808	560	9,247
1981	1,130	1,255					1,600		479		546	240	5,250
1982	1,582	1,457					1,955		587		734	210	6,525
1983	483	1,280					2,224		3,178	21	1,782	346	9,314
1984	362	1,110				150	2,257		898	75	2,395	162	7,409
1985	988	1,335					1,266		434		1,664	208	5,895
1986	1,273	938		771			983	112	290	0	1,040	34	5,441
1987	1,050	942					1,322	91	272	36	1,141	54	4,908
1988	891	1,164				164	637	0	1,128	0	291	0	4,275
1989	267	457	0	67	76	114	314	38	466	19	76	210	2,104
1990	118	152	0		0	303	825	0	337		389	34	2,158
1991	346	333	0		0	213	705	466	1,051	0	253	0	3,367
1992	60	105	45		0	293	301	8	225		497	38	1,572
1993	0	89			0	166	207	28	132		744	56	1,422
1994	107	61			0	254	553	31	204		314	130	1,654
1995	50	0			106	17	102	53	128		439	0	895
1996	17	97			25	296	295	0	286		720	0	1,736
1997	0	68	0	0	0	38	120	113	360	0	145	0	844
1998	0	8	0		0		481	0	131		367	0	987
1999	0	11			0	23	229	19	255		178		715
2000	0	122			8	152	82	0	186			116	666
2001	0	139			27	29	305	0	58	0	17	0	575
1997-2001													
Mean	0	70	0	0	7	61	243	26	198	0	177	29	757
2002	0	60			0	92	212	18	16		81	0	479

^a Fish Lake drainage (Yentna River drainage).

^b May include harvest from West Cook Inlet waters through 1995.

Appendix A63.-Westside Susitna River drainage Arctic grayling catch by fishery, 1990-2002.

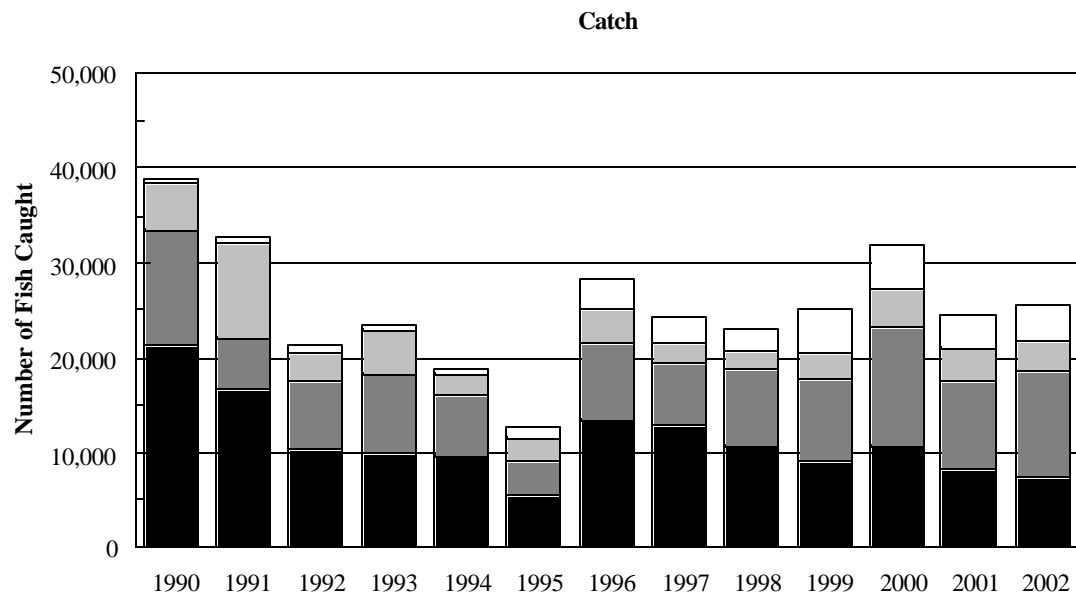
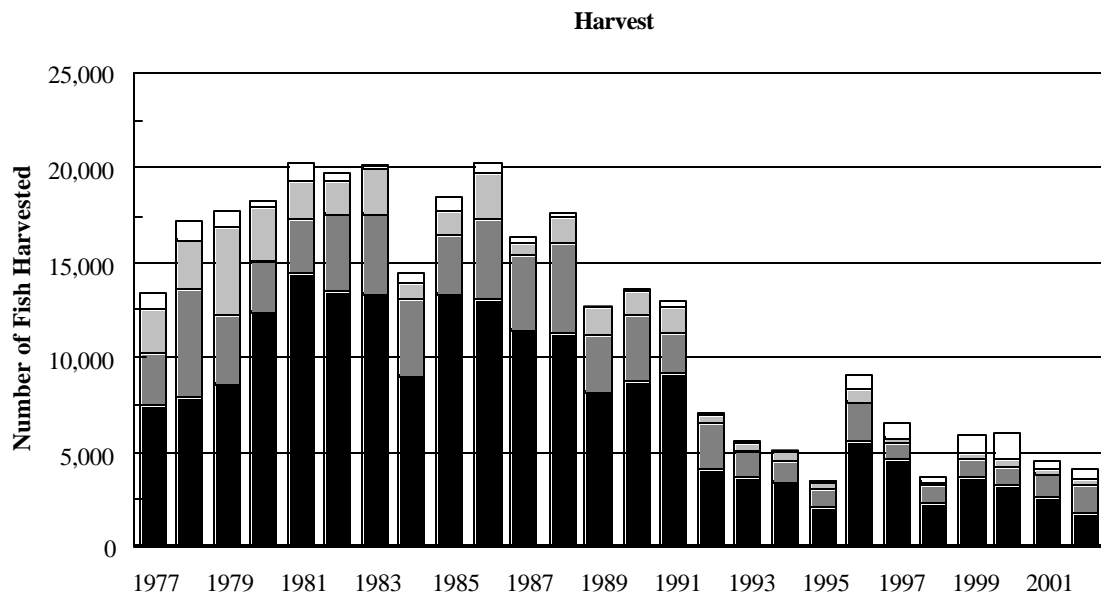
Year	Alexander Creek	Deshka River	Rabideux Creek	Moose Creek	Yentna River	Peters Creek	Lake Creek	Fish Creek ^a	Talachulitna River	Judd Lake	Other Streams ^b	Other Lakes ^b	Total
1990	893	909	0		0	505	8,656	0	6,467		1,650	51	19,131
1991	705	1,557	0		0	346	6,336	466	6,935	240	559	40	17,184
1992	248	594	218		0	541	4,884	8	3,509		1,835	38	11,875
1993	361	1,053			0	408	7,902	64	5,024		3,930	168	18,910
1994	187	594			0	599	9,435	366	6,275		2,313	375	20,144
1995	489	319			528	318	2,272	79	3,446		1,855	53	9,359
1996	90	650			25	890	1,705	116	6,675		3,443		13,594
1997	10	402			0	773	5,570	426	8,718	0	1,780		17,679
1998	30	900			120		3,142	31	1,248		3,048		8,519
1999	707	179			11	34	3,270	993	3,909		515		9,618
2000	392	716			701	1,557	6,474	209	3,310		84	535	13,978
2001	244	390			749	618	6,219	721	3,462	0	813	0	13,216
1997-2001													
Mean	277	517			316	746	4,935	476	4,129	0	1,248	268	12,602
2002	654	2347			224	3,472	5,321	123	1,577		2,084	0	15,802

^a Fish Lake drainage (Yentna River drainage).

^b May include harvest from West Cook Inlet waters through 1995.

Appendix A64.-West Cook Inlet drainage Arctic grayling harvest by fishery and total catch, 1977-2002.

Year	Chuitna River	Theodore River	Lewis River	Kustatan River	Big River Lakes	Susitna R.- N. Foreland	South of N. Foreland	Harvest Total	Catch Total
1977	0	0	0					0	
1978	0	0	0					0	
1979	0	0	0					0	
1980	0	0	0					0	
1981	0	0						0	
1982	0	0						0	
1983	0	10		0		105		115	
1984	0	37		0		0	0	37	
1985	0	0	0	0		69	0	69	
1986	89	0		0		0	0	89	
1987	36	0	0	0		0	0	36	
1988	0	0	0	0		0	73	73	
1989	57	86	0	0		0	0	143	
1990	17	17	0	0	0	17	0	51	404
1991	13	13	0	0		0	0	26	93
1992	0	0		75		38	0	113	557
1993	0	0	0	0	0	9	0	9	162
1994	0	0	0	0	0	8	0	8	90
1995	0	0	0	0	0	0	0	0	176
1996	135	0	0	0	0	0	0	135	746
1997	189	0	0	0	0	27	40	256	688
1998	0	0	0	10	0	42	0	52	428
1999	34	0	0	0	0	0	32	66	307
2000	0	0	0	0	0	84	0	84	735
2001	9	0	0	0	0	0	29	38	1,170
1997-2001									
Mean	46	0	0	2	0	31	20	99	666
2002	0	0	0	0	0	7	0	7	106



■ Knik Arm Drainage ■ East Susitna Drainage
 ■ West Susitna Drainage □ West Cook Inlet Drainage

Appendix A65.-Northern Cook Inlet Management Area recreational Dolly Varden/Arctic char harvest and catch, 1977-2002.

Appendix A66.-Knik Arm drainage Dolly Varden/Arctic char harvest by fishery, 1977-2002.

Year	Marine	Little Susitna	Knik River ^a	Eklutna Tailrace	Wasilla Creek	Cotton- wood Ck	Fish Creek ^b	Wasilla Lake	Big Lake	Nancy L. Complex	Other Streams ^c	Other Lakes	Total
1977		645			328				4,953	277	1,338		7,541
1978		570			325				5,433	18	1,636		7,982
1979		1,191			364	191		264	4,227	118	2,227		8,582
1980		1,748			189	439		181	7,585	327	2,015		12,484
1981		2,529	1,130		690	67		38	7,741	345	1,935		14,475
1982		1,331	1,279		1,289	10		63	8,793	272	503		13,540
1983	21	1,227	1,310		1,290	157		167	6,126	1,154	1,531	408	13,391
1984	112	1,272	1,509	50	25	0		50	3,866	150	1,696	373	9,103
1985	17	1,791	2,011	104	0	0	104	225	8,096	17	711	260	13,336
1986	0	838	3,094	56	246	45	168	11	7,406	168	625	391	13,048
1987	126	380	127	869	869	0	36	36	8,638	163	145	36	11,425
1988	401	564	2,237	309	0	36	36	273	5,930	1,055	146	327	11,314
1989	63	763	1,507	118	18	191	517	0	4,467	155	181	163	8,143
1990	147	821	1,822	98	0	164	16	0	4,907	66	147	558	8,746
1991	427	747	934	187	1,841	213	0	0	4,162	80	361	186	9,138
1992	8	524	541	25	16	0	16	57	2,597	33	57	312	4,186
1993	0	292	536	195	203	0	185	0	1,812	165	230	68	3,686
1994	9	162	566	36	556	134	124	0	1,489	66	135	255	3,532
1995	95	119	456	33	22	0	0	26	1,228	65	10	55	2,109
1996	24	146	1,298	570	0	0	24	49	2,328	110	133	924	5,606
1997	0	122	723	554	0	0	95	0	1,408	95	265	377	4,639
1998	8	111	576	130	17	17	0	0	1,139	76	34	317	2,425
1999	0	22	154	264	66	0	571	0	747	0	44	1,930	3,798
2000	0	71	744	0	0	12	184	0	818	131	181	1,252	3,393
2001	0	267	683	227	65	11	65	11	612	54	11	656	2,662
1997-2001													
Mean	2	119	576	235	30	8	183	2	945	71	107	906	3,383
2002	0	357	462	19	0	11	11	0	322	89	44	507	1,822

^a Knik River and tributaries including Jim Creek.

^b Big Lake drainage.

^c Includes lakes and streams, 1977-1982.

Appendix A67.-Knik Arm drainage Dolly Varden/Arctic char catch by fishery, 1990-2002.

Year	Marine	Little Susitna	Knik River ^a	Eklutna Tailrace	Wasilla Creek	Cotton- wood Ck	Fish Creek ^b	Wasilla Lake	Big Lake	Nancy L. Complex	Other Streams	Other Lakes	Total
1990	344	2,544	4,808	427	0	279	115	66	10,896	148	606	1,083	21,316
1991	427	1,054	1,467	480	1,967	213	0	0	9,978	93	801	252	16,699
1992	8	1,802	1,032	360	107	0	33	107	6,202	123	156	434	10,364
1993	10	774	1,614	284	515	292	331	0	4,686	327	916	161	9,910
1994	28	624	1,431	191	565	466	133	0	5,086	159	171	913	9,767
1995	134	419	1,304	215	109	44	22	55	2,964	87	10	77	5,440
1996	73	279	4,393	740	121	242	49	98	5,335	389	534	1,289	13,542
1997	54	375	1,696	1,135	0	95	106	0	7,870	205	563	715	12,814
1998	8	560	1,291	372	305	17	68	0	5,905	126	202	1,845	10,699
1999	11	604	715	341	77	0	571	0	2,756	220	44	3,635	8,974
2000	200	453	2,045	308		12	494	10	3,852	237	295	2,799	10,705
2001	0	757	2,025	467	540	43	302	11	2,143	97	11	2,005	8,401
1997-2001													
Mean	55	550	1,554	525	231	33	308	4	4,505	177	223	2,200	10,319
2002	0	1,325	2,020	179	0	55	112	0	1,687	273	55	1,743	7,449

^a Knik River and tributaries including Jim Creek.

^b Big Lake drainage.

Appendix A68.-Eastside Susitna River drainage Dolly Varden/Arctic char harvest by fishery, 1977-2002.

Year	Willow Creek	Little Willow	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River ^a	Other Streams ^b	Lakes	Total
1977	863	139			94		300			379	951		2,726
1978	280	63			108		633			1,817	2,739		5,640
1979	618	336		91	127		527		264	827	909		3,699
1980	636	122		83	83		167		39	751	790		2,671
1981	249	48		38	57		240		10	1,418	814		2,874
1982	262	189		73	409		356		42	1,069	1,666		4,066
1983	336	73	304	157	52		325		84	1,962	789	126	4,208
1984	424	100	212	25	125	0	661		125	2,020	187	125	4,004
1985	538	520		35	104		17		0	1,352	572	0	3,138
1986	71	0	327	0	182	0	327	0	508	2,396	182	218	4,211
1987	308	54	380	109	72	36	235	18	0	2,680	18	36	3,946
1988	728	200	218	73	182	0	291	0	0	2,146	910	0	4,748
1989	370	28	268	0	120	18	185	0	0	1,719	64	268	3,040
1990	538	67	386	17	50	34	84		0	2,369	68	0	3,613
1991	227	60	72	0	263	60	167	24	0	1,171	36	60	2,140
1992	320	107	25	8	25	90	41	41	0	1,647	0	90	2,394
1993	170	49	39	0	117	10	10	18	0	971	19	10	1,413
1994	118	27	18	18	63	18	46	0	0	520	205	0	1,033
1995	139	66	131	0	33	0	11	0	0	545	87	0	1,012
1996	218	61	97	0	12	12	73	0	0	1,312	121	121	2,027
1997	11	27	56	0	27	20	111	0	0	451	203	0	906
1998	8	0	76	0	119	0	59	0	0	449	68	110	889
1999	0	11	0	0	68	0	22	0	11	498	308	0	918
2000	12	40	71	0	22	12	54	22	0	322	126	142	823
2001	59	0	54	0	43	0	30	0	0	708	116	162	1,172
1997-2001													
Mean	18	16	51	0	56	6	55	4	2	486	164	83	942
2002	0	0	17	9	189	0	0	0	9	633	33	622	1,512

^a Talkeetna River and tributaries including Clear Creek.

^b Includes lakes and streams, 1977-1982.

Appendix A69.-Eastside Susitna River drainage Dolly Varden/Arctic char catch by fishery, 1990-2002.

	Willow	Little	Kashwitna	Caswell	Sheep	Goose	Montana	Birch	Sunshine	Talkeetna	Other		
Year	Creek	Willow	River	Creek	Creek	Creek	Creek	Creek	Creek	River ^a	Streams	Lakes	Total
1990	1,462	168	1,260	50	185	218	370		67	7,627	924	0	12,331
1991	347	587	120	0	347	131	191	24	12	3,657	180	60	5,356
1992	901	451	295	8	229	90	213	377	0	4,014	484	132	7,194
1993	558	88	400	0	203	58	135	18	19	6,671	338	10	8,498
1994	631	359	83	18	215	108	173	0	0	4,284	358	227	6,356
1995	172	174	164	0	197	0	85	0	0	2,765	109	0	3,666
1996	438	551	340	0	25	61	185	0	24	6,037	328	121	8,110
1997	210	79	830	0	508	127	362	0	0	4,136	484	0	6,736
1998	383	51	770	66	1,049	51	76	0	0	5,428	135	110	8,119
1999	772	90	341	91	260	23	433	22	11	6,415	374	22	8,854
2000	920	149	994	0	322	320	1,542	138	20	7,442	396	249	12,492
2001	252	261	259	0	251	0	678	0	11	7,043	288	162	9,205
1997-2001													
Mean	507	126	639	31	478	104	618	32	8	6,093	335	109	9,081
2002	834	207	530	38	1,047	312	391	0	9	6,353	409	993	11,123

^a Talkeetna River and tributaries including Clear Creek.

Appendix A70.-Westside Susitna River drainage Dolly Varden/Arctic char harvest by fishery, 1977-2002.

Year	Alexander Creek	Deshka River	Peters Creek	Lake Creek	Fish Creek ^a	Talachulitna River	Judd Lake	Other Streams ^b	Other Lakes ^b	Total
1977	53	0		122		252	195	1,279	345	2,246
1978	136	0		154		235	371	1,220	551	2,667
1979	182	0		164		155	573	2,872	645	4,591
1980	353	0		121		982	723	603	43	2,825
1981	287	10		67		10		1,130	499	2,003
1982	42	0		482		31		440	818	1,813
1983	136	0		262		105	252	596	1049	2,400
1984	75	25	12	125		50	262	212	37	798
1985	0	139		87		87		642	312	1,267
1986	34	134		0	78	101	514	1,609	0	2,470
1987	0	72		36	36	0	254	163	127	688
1988	236	273	0	91	0	382	0	401	18	1,401
1989	171	86	0	124	38	10	19	257	780	1,485
1990	0	84	269	101	0	84		372	270	1,163
1991	0	0	0	65	327	261	33	440	310	1,436
1992	0	8	0	8	41	66		40	237	400
1993	47	29	0	9	10	9		359	0	463
1994	0	0	18	44	0	103		342	0	507
1995	0	0	51	43	27	225		276	0	622
1996	0	36	24	74	24	255		280		693
1997	0	0	0	0	79	85	0	85		249
1998	0	0	0	31	14	8	0	69		122
1999	0	64	0	0	33	33		136		266
2000	0	154	0	136	0	93		151	0	534
2001	0	0	11	17	0	75	0	201	0	304
1997-2001										
Mean	0	44	2	37	25	59	0	128	0	295
2002	0	30	72	45	0	88		85	0	320

^a Fish Lake drainage (Yentna River drainage).

^b May include harvest from West Cook Inlet waters through 1995.

Appendix A71.-Westside Susitna River drainage Dolly Varden/Arctic char catch by fishery, 1990-2002.

Year	Alexander Creek	Deshka River	Peters Creek	Lake Creek	Fish Creek ^a	Talachulitna River	Judd Lake	Other Streams ^b	Other Lakes ^b	Total
1990	34	185	370	707	0			1,989	1,600	4,885
1991	131	16	82	212	327	1,258	65	5,343	2,794	10,228
1992	0	492	0	156	74	426		1,244	573	2,973
1993	108	49	38	221	48	604		3,409	0	4,477
1994	0	37	36	376	95	867		629	57	2,097
1995	10	0	70	114	37	1,550		796	0	2,577
1996	1,130	97	36	622	73	964		696		3,618
1997	32	75	0	323	119	360	0	1,116	0	2,025
1998	0	17	0	217	117	327		1,287		1,965
1999	23	626	0	519	78	1,111		293	0	2,650
2000	29	680	59	691	0	1,778		998	0	4,235
2001	0	259	11	444	298	1,250	0	1,091	0	3,353
1997-2001										
Mean	17	331	14	439	122	965	0	957	0	2,846
2002	6	428	305	450	125	1,465		637	0	3,416

^a Fish Lake drainage (Yentna River drainage).

^b May include harvest from West Cook Inlet waters through 1998.

Appendix A72.-West Cook Inlet drainage Dolly Varden/Arctic char harvest by fishery, 1977-2002.

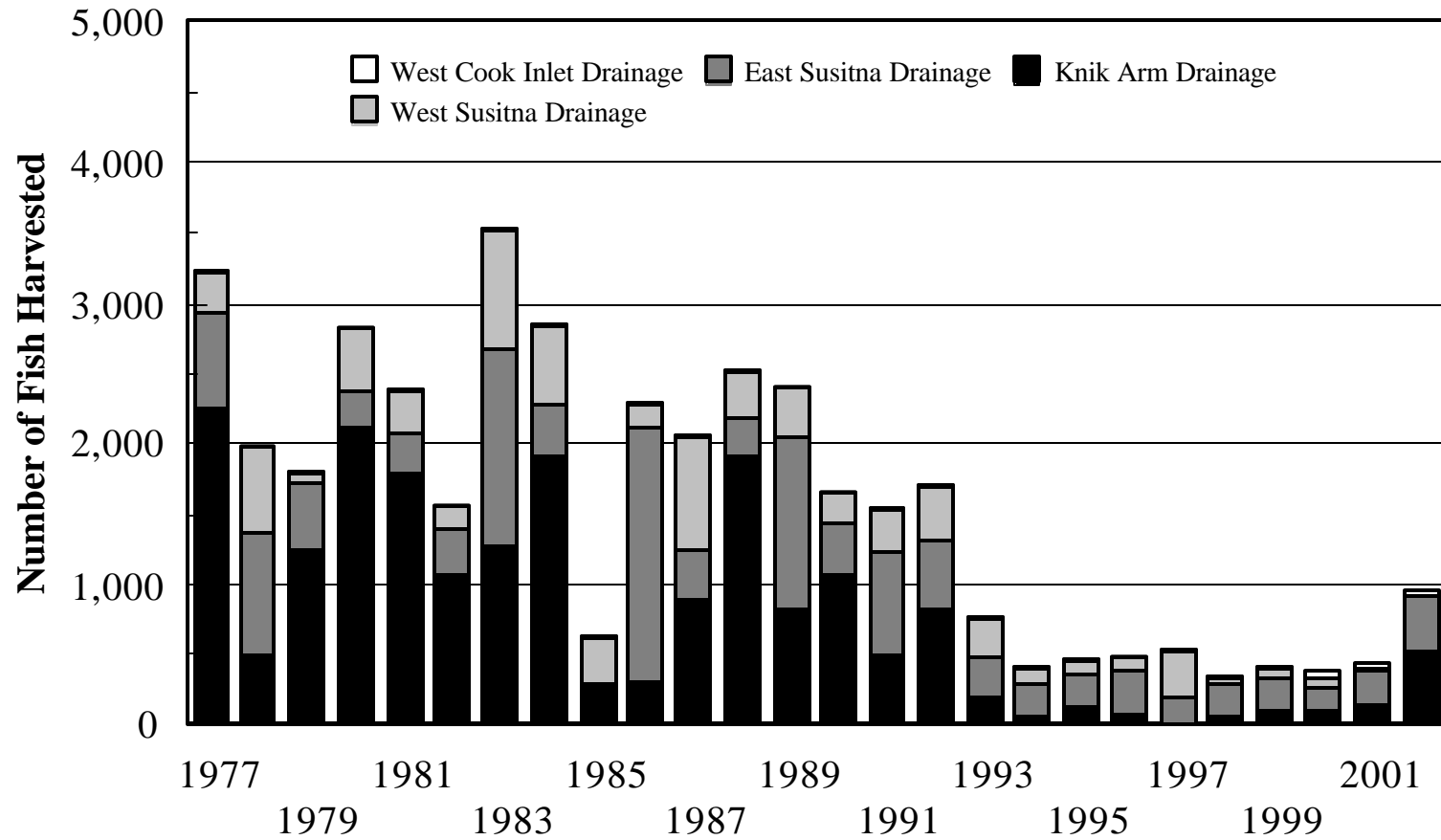
	Chuitna River	Theodore River	Lewis River	Kustatan River	Big River Lakes	Susitna R.– N. Foreland	South of Foreland	N. Other ^a	Total
1977	671	181	0						852
1978	461	353	27						841
1979	664	173	9						846
1980	146	129	0						275
1981	843	115							958
1982	304	0							304
1983	209	21		136					366
1984	511	12		12					535
1985	260	538	0	87					885
1986	235	302		0					537
1987	18	199	109	36					362
1988	164	0	0	18					182
1989	10	0	19	162					191
1990	34	17	0	202	17				270
1991	229	33	33	850					1,145
1992	131	74		311					516
1993	73	10	0	153	0		151	29	416
1994	45	0		18			0	28	91
1995	50	19		192	0		144	19	424
1996	73	109		280	0	24	97	187	770
1997	135	0	0	72	378	11	129	75	800
1998	60	0		102	0	56	27	55	300
1999	34	62		393		0	435	0	924
2000	738	75		453	0	10	40	0	1,316
2001	108	66	0	85	11	0	152	0	422
1997-2001									
Mean	215	41	0	221	97	15	157	26	752
2002	0	18	0	334	0	40	97	7	496

^a Includes lakes and streams.

Appendix A73.-West Cook Inlet drainage Dolly Varden/Arctic char catch by fishery, 1990-2002.

	Chuitna River	Theodore River	Lewis River	Kustatan River	Big River Lakes	Susitna R.– N. Foreland	South of N. Foreland	Other ^a	Total
1990	303	168	0	657	34				1,162
1991	474	33	33	1,569					2,109
1992	426	164		1,172				164	1,926
1993	329	166	0	576	0	87	2,890	87	4,135
1994	346	199		142	0	77	161	77	1,002
1995	891	69		384	0	57	904	57	2,362
1996	859	207		817	0	36	931	187	3,037
1997	450	0	0	515	378	931	725	352	3,351
1998	230	0		746	0	56	878	239	2,149
1999	580	617		909	34	121	2,419	0	4,680
2000	1,362	144		1,407	112	201	1,229	0	4,455
2001	806	243		837	11	65	1,537	0	3,499
1997-2001									
Mean	686	201	0	883	107	275	1,358	118	3,627
2002	398	406	89	1,014	0	72	1,558	128	3,665

^a Includes lakes and streams.



Appendix A74.-Northern Cook Inlet Management Area recreational lake trout harvest, 1977-2002.

Appendix A75.-Knik Arm drainage lake trout harvest by fishery, 1977-2002.

Year	Little Susitna R.	Long Lake (Glenn Hwy)	Big Lake	Nancy Lake	Other Lakes ^a	Other Streams	Total Harvest	Total Catch
1977	0		665	336	1,259		2,260	
1978	0		0	127	380		507	
1979	0		455	145	654		1,254	
1980	0		594	749	775		2,118	
1981	0		623	354	814		1,791	
1982	0		440	356	262		1,058	
1983	31		441	304	503	0	1,279	
1984	0		798	549	572	0	1,919	
1985	0	0	156	104	0	17	277	
1986	0	34	34	201	78	0	313	
1987	91	0	0	562	253	0	906	
1988	91	0	0	691	1,129	0	1,911	
1989	0	0	0	472	363	0	835	
1990	0	0	0	558	509	0	1,067	
1991	0	0	0	211	271	30	512	
1992	0	0	0	377	401	62	840	
1993	0	0	0	102	81	18	201	
1994	0	0	0	0	66	0	66	
1995	0	0	0	0	118	0	118	
1996	0	0	0	54	22	0	76	210
1997	0	10	0	10	0	0	20	80
1998	0	0	0	0	68	0	68	83
1999	0	81	0	27	0	0	108	237
2000	0	116	0	0	0	0	116	277
2001	0	162	0	0	0	0	162	696
1997-2001								
Mean	0	74	0	7	14	0	95	275
2002	0	465	0	0	68	0	533	3,082

^a Includes lakes and streams, 1977-1982.

Appendix A76.-Eastside Susitna River lake trout harvest, 1977-2002, and catch 1996-2002.

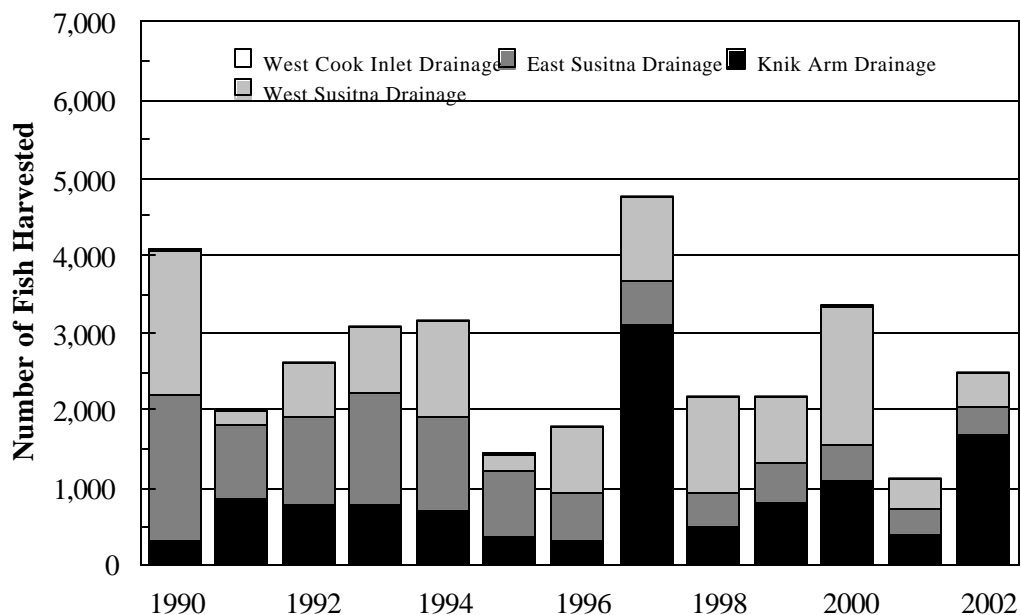
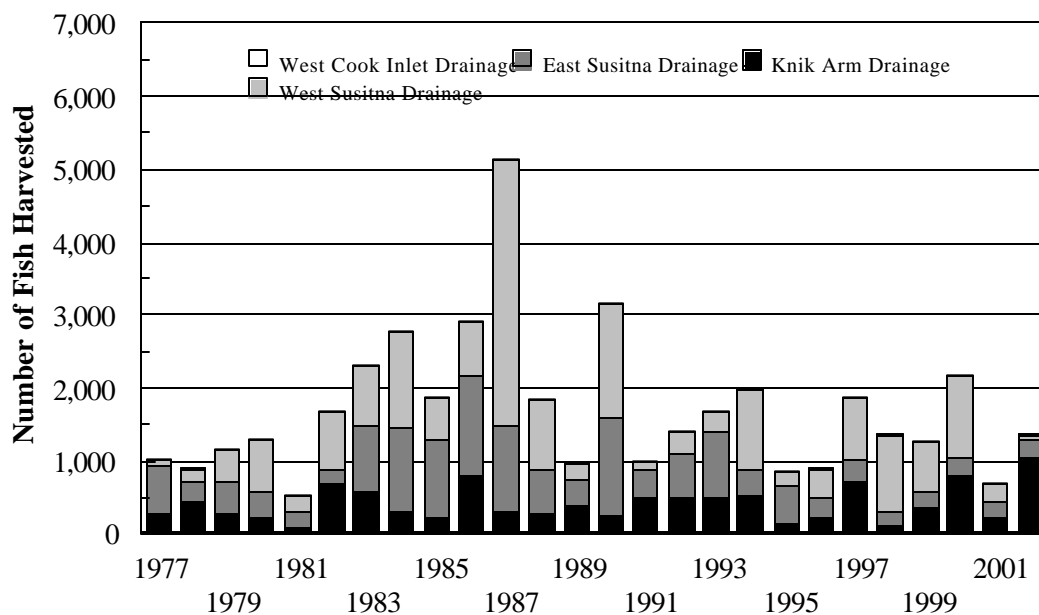
Year	Total Harvest	Total Catch
1977	693	
1978	877	
1979	472	
1980	267	
1981	287	
1982	335	
1983	1,404	
1984	362	
1985	17	
1986	1,816	
1987	343	
1988	291	
1989	1,210	
1990	387	
1991	726	
1992	495	
1993	288	
1994	232	
1995	254	
1996	308	1,200
1997	189	1,125
1998	217	535
1999	222	1,766
2000	154	512
2001	226	992
1997-2001 mean	202	986
2002	403	1,497

Appendix A77.-Westside Susitna River drainage lake trout harvest by fishery, 1977-2002.

Year	Alexander Creek	Deshka River	Yentna River	Lake Creek	Fish Lakes ^a	Shell Lake	Judd Lake	Other Streams ^b	Other Lakes ^b	Total Harvest	Total Catch
1977	0	0		116		23	8	23	108	278	
1978	0	0		36		45	0	0	515	596	
1979	0	0		9		18	0	36	0	63	
1980	0	0		0		69	0	181	198	448	
1981	0	0		19				0	278	297	
1982	0	0		0		52		0	115	167	
1983	0	0		0		409	0	10	430	849	
1984	0	0		0			0	125	437	562	
1985	0	0		121				0	207	328	
1986	0	56		0	0		0	0	101	157	
1987	0	36		0	18		0	109	634	797	
1988	0	0		36	0		18	0	273	327	
1989	0	0	38	0	0		0	0	314	352	
1990	0	17	0	84	0			0	101	202	
1991	0	0	0	61	0		0	46	182	289	
1992	0	39	0	0	0			77	247	363	
1993	0	0	0	0	0			189	87	276	
1994	0	0	0	77	36			0	0	113	
1995	0	0	0	0	0			74	10	84	
1996	0	0	0	0	0			87	0	87	218
1997	0	0	0	0	0	0	0	311		311	575
1998	0	0	0	0	0	0	0	46	0	46	113
1999	0	0	0	0	0	0	0	0	72	72	614
2000	0	0	0	0	0	0	0	60	0	60	71
2001	0	0	0	0	0	0	0	34	0	34	314
1997-2001											
Mean	0	0	0	0	0	0	0	90	18	105	337
2002	0	0	0	0	0	0	0	0	0	0	694

^a Fish Lake drainage (Yentna River drainage).

^b May include harvest from West Cook Inlet waters through 1995.



Appendix A78.-Northern Cook Inlet Management Area recreational burbot harvest, 1977-2002.

Appendix A79.-Knik Arm drainage burbot harvest by fishery, 1977-2002.

Year	Little Susitna	Knik River ^a	Fish Creek ^b	Flathorn Lake	Big Lake	Nancy L. Complex	Other Streams ^c	Other Lakes	Harvest Total	Catch Total
1977	6				73	148	63		290	
1978	9				18	145	280		452	
1979	55			0	0	9	227		291	
1980	9			0	43	34	224		310	
1981	29	0		0	0	29	29		87	
1982	10	0		0	461	210	0		681	
1983	52	0		0	94	357	31	63	597	
1984	25	0		0	75	62	37	137	336	
1985	35	0	0	0	70	105	0	0	210	
1986	22	0	0	0	335	34	0	413	804	
1987	54	0	18	0	36	217	0	0	325	
1988	36	0	0	0	55	127	0	73	291	
1989	27	0	0	0	163	82	0	100	372	
1990	82	0	0	0	82	98	0	0	262	344
1991	40	13	0	0	66	358	0	0	477	863
1992	102	0	0	0	110	118	0	170	500	771
1993	43	0	107	0	278	54	0	0	482	771
1994	10	0	140	0	279	83	0	0	512	708
1995	0	0	0	0	110	7	0	34	151	377
1996	0	0	0	163	41	14	0	0	218	339
1997	13	0	0	0	696	0	0	0	709	3,106
1998	0	0	0	0	121	0	0	0	121	478
1999	0	0	0	13	331	25	0	0	369	817
2000	359	231	291	7	0		242	0	1,130	1,797
2001	0	0	7	0	202	14	0	7	230	393
1997-2001										
Mean	74	46	60	4	270	10	48	1	512	1,318
2002	0	0	0	0	765	0	0	304	1,069	1,681

^a Knik River and tributaries including Jim Creek.

^b Big Lake drainage.

^c Includes lakes and streams, 1977-1982.

Appendix A80.-Eastside Susitna River drainage burbot harvest by fishery, 1977-2002.

	Willow	Little	Kashwitna	Caswell	Sheep	Goose	Montana	Birch	Sunshine	Talkeetna	Other		Harvest	Catch
Year	Creek	Willow	River	Creek	Creek	Creek	Creek	Creek	Creek	River ^a	Streams ^b	Lakes	Total	Total
1977	26	0			45		110			0	438		619	
1978	9	0			18		9			27	208		271	
1979	18	0		0	64		9		45	9	282		427	
1980	0	0		26	45		13		39	32	212		367	
1981	48	0		0	0		0		115	0	57		220	
1982	63	0		0	0		0		73	0	63		199	
1983	21	0	0	31	10		0		367	84	126	262	901	
1984	0	0	12	87	648	37	75		100	62	112	0	1,133	
1985	105	175		70	0		0		0	420	315	0	1,085	
1986	0	0	109	0	0	0	0	73	835	0	290	73	1,380	
1987	0	54	18	127	18	72	72	72	344	145	253	0	1,175	
1988	18	0	18	309	18	0	0	0	73	55	0	109	600	
1989	9	18	46	18	0	9	0	65	185	9	18	18	395	
1990	84	0	34	185	34	269	0		638	67	34	0	1,345	1,864
1991	0	55	22	66	11	44	22	77	0	88	22	0	407	957
1992	0	0	0	110	0	51	0	144	68	211	16	8	608	1,132
1993	21	85	0	32	75	0	0	118	133	310	135	0	909	1,458
1994	0	17	13	228	0	0	0	31	228	74	31	52	674	1,208
1995	0	0	0	115	0	0	63	11	69	122	34	103	517	837
1996	16	0	0	33	0	0	0	0	16	89	0	130	284	602
1997	0	0	0	26	32	0	39	52	39	39	0	77	304	573
1998	12	0	8	0	12	0	9	12	71	34	0	50	208	470
1999	0	0	0	0	0	13	16	76	53	0	72	0	230	503
2000	0	0	0	0	0	0	14	0	19	180	29	0	242	457
2001	7	0	14	0	0	0	7	43	115	0	28	0	214	357
1997-2001														
Mean	4	0	4	5	9	3	17	37	59	51	26	25	240	472
2002	0	0	0	28	36	0	43	0	104	0	0	0	211	351

^a Talkeetna River and tributaries including Clear Creek.

^b Includes lakes and streams, 1977-1982.

Appendix A81.-Westside Susitna River drainage burbot harvest by fishery, 1977-2002.

Year	Alexander Creek	Deshka River	Yentna River	Lake Creek	Fish Lakes ^a	Rabideux Creek	Other Streams ^b	Other Lakes ^b	Harvest Total	Catch Total
1977	0	3		42			51	19	115	
1978	0	0		0			117	36	153	
1979	36	309		64			45	0	454	
1980	0	224		0			448	34	706	
1981	29	96		29			57	0	211	
1982	84	252		0			10	430	776	
1983	0	126		283			125	273	807	
1984	12	237		100			199	761	1,309	
1985	0	140		140			105	175	560	
1986	0	257		67	89		302	0	715	
1987	18	1,123		507	145		1,738	109	3,640	
1988	36	36		327	218		127	200	944	
1989	0	96	19	0	19		58	0	192	
1990	51	118	34	556	438		84	253	1,534	1,870
1991	9	35	0	0	9	35	9	0	97	203
1992	0	42	0	0	76	76	76	34	304	709
1993	11	42	0	0	21		190	0	264	854
1994	0	115	166	45	135		598	31	1,090	1,247
1995	0	0	21	0	23		146	0	190	230
1996	0	0	0	14	16		366	0	396	860
1997	13	0	32	0	0		816	0	861	1,099
1998	0	23	0	3	4		999	0	1,029	1,207
1999	38	38	0	28	76		492	0	672	859
2000	359	231	291	7	0		242	0	1130	1,797
2001	0	94	122	0	0		29	0	245	371
1997-2001										
Mean	82	77	89	8	16		516	0	787	1,067
2002	0	45	31	0	15		0	0	91	441

^a Fish Lake drainage (Yentna River drainage).

^b May include harvest from West Cook Inlet waters through 1998.

Appendix A82.-Knik Arm drainage smelt harvest by fishery, 1985-2002.

Year	Marine Fish Creek	Other Marine	Fresh Water	Total
1985	0	560	0	560
1986	0	3,351	0	3,351
1987	0	0	0	0
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	2,292	0	2,292
1995	0	0	0	0
1996	0	0	0	0
1997	0	0	0	0
1998	0	0	0	0
1999	2,708	0	0	2,708
2000	0	2,725	3,406	6,131
2001	0	675	899	1,574
1997-2001				
Mean	542	680	861	2,083
2002	0	0	0	0

Note: Smelt grouped with other fish prior to 1985.

Appendix A83.-Westside Susitna River drainage smelt harvest by fishery, 1985-2002.

Year	Alexander Creek	Deshka River	Yentna River	Lake Creek	Susitna River	Total
1985	0	0		0	1,680	1,680
1986	0	7,300		0	0	7,300
1987	0	0		0	9,265	9,265
1988	1,547	0		1,083	6,219	8,849
1989	0	0	0	785	1,539	2,324
1990	707	842	3,368	674	0	5,591
1991	3,774	245	0	0	2,113	6,132
1992	379	0	1,082	0	14,062	15,523
1993	0	2,236	0	0	4,360	6,596
1994	0	458	3,438	235	5,352	9,483
1995	0	0	1,382	0	3,167	4,549
1996	364	0	364	0	1,455	2,183
1997	0	0	2,703	0	5,812	8,515
1998	0	0	2,050	0	3,745	5,795
1999	571	6,499	3,038	0	16,923	27,031
2000	7	1,363	2,725	0	1,397	5,492
2001	0	0	3,935	0	4,772	8,707
1997-2001						
Mean	116	1,572	2,890	0	6,530	11,108
2002	0	2,228	1,061	0	9	3,298

Note: Smelt grouped with other fish prior to 1985.

Appendix A84.-Knik Arm drainage whitefish harvest by fishery, 1985-2002.

Year	Little Susitna	Knik River ^a	Eklutna Tailrace	Wasilla Creek	Cottonwood Creek	Big Lake ^b	Wasilla Lake	Big Lake	Nancy L. Complex	Other Streams	Other Lakes	Total
1985	587	0	0	0	0	0	0	0	0	0	0	587
1986	134	424	0	0	0	0	11	0	11	0	0	580
1987	199	18	0	0		0	36	0	127	0	0	380
1988	673	327	18	0	0	18	0	18	91	18	0	1,163
1989	599	118	9	0	0	100	0	9	9	0	0	844
1990	443	98	0	0	0	0	0	16	65	0	0	622
1991	732	42	0	0	0	0	84	0	42	0	0	900
1992	138	18	0	0	0	0	0	0	101	0	0	257
1993	157	9	0	0	0	0	35	0	0	0	26	227
1994	170	0	0	0	0	7	0	48	17	0	0	242
1995	44	18	0	0	0	0	0	9	0	0	0	71
1996	16	0	0	0	0	0	0	0	0	0	0	16
1997	14	38	0	0	0	6	0	0	38	0	0	96
1998	310	15	15	0	0	0	4	0	12	0	0	356
1999	7	0	0	0	0	0	0	0	0	0	0	7
2000	7	0	106	0	0	0	0	0	0	0	0	113
2001	7	28	13	0	0	0	0	90	155	0	258	551
1997-2001												
Mean	69	16	27	0	0	1	1	18	41	0	52	225
2002	136	0	0	0	0	0	54	0	0	0	0	190

Note: Whitefish grouped with other fish prior to 1985.

^a Knik River and tributaries including Jim Creek.

^b Big Lake drainage streams.

Appendix A85.-Eastside Susitna River drainage whitefish harvest by fishery, 1984-2002.

Year	Lt. Willow Creek	Willow Creek	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Sunshine Creek	Birch Creek	Talkeetna River ^a	Other Streams	Lakes	Total
1984	62	349	150	12	37	0	175	175		49	49	0	1,058
1985	350	245		0	105		0	560		105	0	0	1,365
1986	0	73	0	0	0	0	0	581	73	363	0	0	1,090
1987	0	72	36	109	18	0	72	109	36	272	72	0	796
1988	18	218	0	18	55	0	91	0	0	146	0	0	546
1989	0	111	83	0	102	18	18	0	0	46	64	0	442
1990	0	403	101	34	101	0	0	50		319	34	336	1,378
1991	235	188	0	31	94	0	0	0	0	78	0	0	626
1992	28	64	9	18	9	28	18	9	9	55	0	18	265
1993	0	35	0	0	26	9	0	0	0	17	0	0	87
1994	39	58	10	10	19	19	0	0	0	0	17	0	172
1995	34	9	0	0	9	0	0	0	0	28	0	0	80
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	26	0	0	0	0	6	0	0	32
1998	46	4	4	0	4	0	0	26	0	4	0	8	96
1999	0	0	0	0	0	0	0	0	0	32	0	0	32
2000	0	10	0	0	0	0	0	0	0	42	0	0	52
2001	0	20	13	26	13	0	0	0	0	63	0	0	135
1997-2001													
Mean	9	7	3	5	9	0	0	5	0	29	0	2	69
2002	0	34	0	0	17	0	8	8	0	0	0	0	67

Note: Whitefish grouped with other fish prior to 1984.

^a Talkeetna River and tributaries including Clear Creek.

Appendix A86.-Westside Susitna River drainage whitefish harvest by fishery, 1985-2002.

Year	Alexander Creek	Deshka River	Yentna River	Lake Creek	Fish Lakes ^a	Talachulitna River	Other Streams ^b	Other Lakes ^b	Total
1985	0	175		315	0	0	0	35	525
1986	112	156		145	11	0	11	0	435
1987	127	163		851	272	0	163	109	1,685
1988	637	564		91	91	0	36	0	1,419
1989	95	86	0	10	10	38	143	0	382
1990	152	488	0	623	67	0	51	0	1,381
1991	120	199	27	106	0	0	79	0	531
1992	0	193	18	0	28	0	45	56	340
1993	82	351	105	0	8	0	9	0	555
1994	23	110	0	240	116	0	290	0	779
1995	8	0	0	42	17	0	9	0	76
1996	144	0	0	16	0	0	0	0	160
1997	0	0	0	0	0	0	18	0	18
1998	0	36	8	0	63	3	4	0	114
1999	0	0	0	95	0	0	0	0	95
2000	0	42	21	56	0	20	0	0	139
2001	0	65	13	11	0	0	22	0	111
1997-2001									
Mean	0	29	8	32	13	5	9	0	95
2002	0	41	0	0	0	0	33	0	74

Note: Whitefish grouped with other fish prior to 1985.

^a Fish Lake drainage (Yentna drainage).

^b May include harvest from West Cook Inlet waters through 1998.

Appendix A87.-West Cook Inlet drainage whitefish harvest by fishery, 1985-2002.

Year	Chuitna River	Theodore River	Lewis River	Other ^a	Total
1985	0	0	0		0
1986	0	0			0
1987	0	0	0		0
1988	0	0	0		0
1989	0	48	0		48
1990	0	135	0		135
1991	0	0	0		0
1992	0	0	0		0
1993	0	0	0	9	9
1994	0	0		0	0
1995	0	0	0	0	0
1996	0	0	0	0	0
1997	0	0	0	68	68
1998	0	0	0	0	0
1999	0	0	0	0	0
2000	0	0	0	7	7
2001	0	0	0	0	0
1997-2001					
Mean	0	0	0	15	15
2002	0	0	0	0	0

Note: Whitefish grouped with other fish prior to 1985.

^a Includes lakes and streams.

Appendix A88.-Knik Arm drainage other fish harvest by fishery, 1977-2002.

Year	Marine	Little Susitna	Knik River ^a	Eklutna Tailrace	Wasilla Creek	Cotton- wood Ck	Fish Creek ^b	Wasilla Lake	Big Lake	Nancy L. Complex	Other Streams ^c	Other Lakes	Total
1977		77			0				17	57	229		380
1978		759			0				0	0	36		795
1979		291			0	55		27	55	9	0		437
1980		1,059			0	0		0	0	43	34		1,136
1981		690	0		0	0		38	10	19	19		776
1982		713	0		0	0		0	0	73	31		817
1983	52	136	0		0	0		0	0	241	0	0	429
1984	0	87	0	0	0	0		75	12	125	0	150	449
1985	0	0	0	0	0	0	35	87	0	0	0	87	209
1986	0	0	0	0	0	0	0	0	24	0	0	0	24
1987	0	0	0	0	0	0	0	0	0	462	0	0	462
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	99	0	99
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	389	141	0	0	260	0	0	0	0	0	22	812
1993	157	19	0	0	0	0	0	0	0	0	0	0	176
1994	0	0	0	33	0	0	0	0	74	0	0	56	163
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	38	38
1997	0	0	0	0	0	0	0	31	0	23	0	15	69
1998	0	0	0	0	0	0	0	0	0	0	0	45	45
1999	0	0	0	0	0	0	0	0	0	0	0	53	53
2000	0	7	0	0	0	0	0	0	0	0	0	298	305
2001	0	0	0	0	0	0	0	0	0	0	0	117	117
1997-2001													
Mean	0	1	0	0	0	0	0	6	0	5	0	106	118
2002	0	0	0	0	0	0	0	0	0	0	0	26	26

Note: Includes smelt, whitefish and northern pike prior to 1985.

^a Knik River and tributaries including Jim Creek.

^b Big Lake drainage.

^c Includes lakes and streams, 1977-1982.

Appendix A89.-Eastside Susitna River drainage other fish harvest by fishery, 1977-2002.

Year	Willow Creek	Little Willow	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River ^a	Other Streams ^b	Lakes	Total
1977	218	57			0		133			23	195		626
1978	27	0			9		27			0	90		153
1979	45	0		36	191		91		273	64	73		773
1980	116	13		26	0		13		0	32	520		720
1981	38	0		96	86		19		0	38	29		306
1982	63	0		0	21		10		42	10	199		345
1983	52	0	157	10	0		52		0	126	51	21	469
1984	125	0	0	0	0	0	25		0	0	0	75	225
1985	0	0		0	0		0		0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	15	0	0	0	0	0	0	0	0	0	0	0	15
1990	0	0	0	0	0	0	0		0	0	0	67	67
1991	16	0	0	0	0	0	0	0	0	0	0	0	16
1992	54	0	0	0	0	0	0	0	0	0	0	22	76
1993	29	0	0	0	0	20	0	0	0	0	0	0	49
1994	0	9	0	0	92	0	0	0	0	56	0	9	166
1995	0	0	0	0	0	0	10	0	0	51	0	0	61
1996	6	0	0	0	0	0	6	0	0	32	19	0	63
1997	17	0	0	0	0	0	25	0	0	0	42	0	84
1998	17	0	0	0	0	0	0	0	0	0	0	0	17
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	26	0	0	18	78	39	18	0	0	0	0	0	179
1997-2001													
Mean	12	0	0	4	16	8	9	0	0	0	8	0	56
2002	0	0	16	0	0	0	0	0	0	15	0	0	31

Note: Includes smelt, whitefish, and northern pike prior to 1984.

^a Talkeetna River and tributaries including Clear Creek.

^b Includes lakes and streams, 1977-1982.

Appendix A90.-Westside Susitna River drainage other fish harvest by fishery, 1977-2002.

Year	Alexander Creek	Deshka River	Peters Creek	Lake Creek	Fish Creek ^a	Talachulitna River	Other Streams ^b	Lakes ^b	Total
1977	59	68		14			342	68	551
1978	181	72		18			63	36	370
1979	145	82		109		45	55	0	436
1980	0	69		0			0	34	103
1981	0	19		19			48	0	86
1982	178	115		63			10	0	366
1983	21	430		10			0	0	461
1984	187	212	0	137			50	12	598
1985	35	0		69			0	0	104
1986	0	0		0	0		0	0	0
1987	31	0		0	0		0	0	31
1988	0	0	0	0	0		0	0	0
1989	0	0	0	0	0		0	0	0
1990	17	0	0	34	0		0	0	51
1991	21	0	0	0	0	0	43	0	64
1992	0	22	0	0	0	0	0	0	22
1993	0	0	0	0	0	0	49	0	49
1994	0	0	0	28	0	0	18	38	84
1995	20	0	0	0	0	0	0	0	20
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	85	0	85
1998	0	0	0	0	0	0	5	0	5
1999	0	0	0	0	0	0	0	0	0
2000	0	0	11	0	0	0	0	0	11
2001	0	0	0	0	0	0	0	0	0
1997-2001									
Mean	0	0	2	0	0	0	18	0	20
2002	0	0	0	0	236	0	0	0	236

Note: Includes smelt, whitefish and northern pike prior to 1985.

^a Fish Lake drainage (Yentna River drainage).

^b May include harvest from West Cook Inlet waters through 1995.

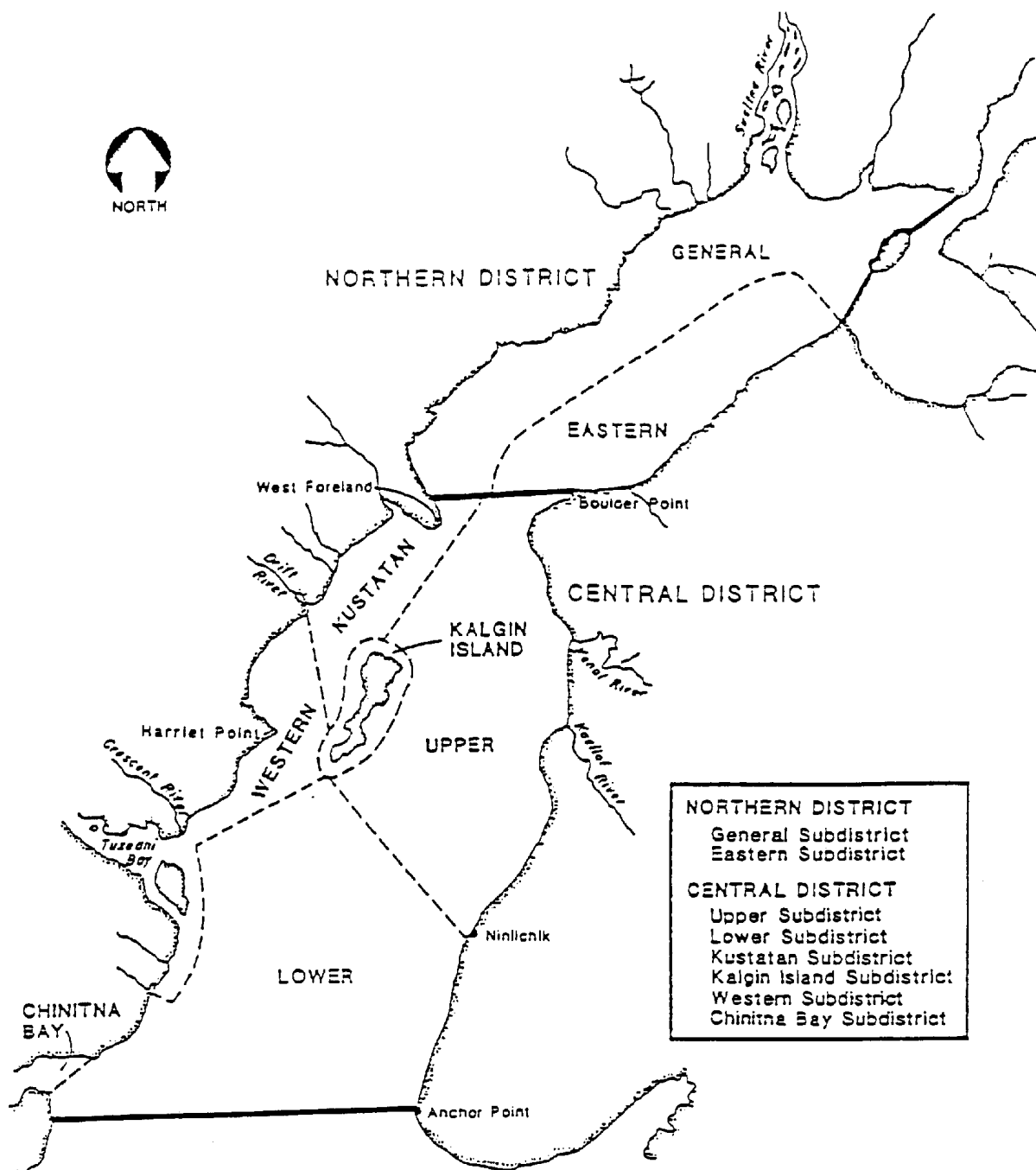
Appendix A91.-West Cook Inlet drainage razor clams and other fish harvest by fishery, 1977-2002.

Year	Chuitna River	Theodore River	Lewis River	Other ^a	Polly Cr./ Crescent R. Bar
				Other	Razor Clams
1977	12	0	0		
1978	0	0	0		
1979	45	0	0		
1980	0	0	0		
1981	0	0			
1982	0	0			
1983	10	0			
1984	0	0			
1985	0	0	0		92,540
1986	0	0			103,748
1987	0	0	0		103,328
1988	0	0	0		50,046
1989	0	0	0		44,415
1990	0	0	0		47,826
1991	0	0	0		27,658
1992	0	0	0		26,739
1993	0	0	0	29	25,850
1994	0	0		9	10,990
1995	0	0	0	0	11,559
1996	0	0	0	0	13,815
1997	0	0	0	24	13,490
1998	0	0	0	0	5,951
1999	0	0	0	0	13,814
2000	0	0	0	0	21,000
2001	0	0	0	0	7,621
1997-2001					
Mean	0	0	0	5	12,375
2002	0	0	0	0	6,228

Note: Includes smelt, whitefish and northern pike prior to 1985.

^a Includes lakes and streams.

APPENDIX B



Appendix B1.-Upper Cook Inlet commercial salmon fishing districts.

Appendix B2.-Commercial salmon catch from all Upper Cook Inlet districts, 1977-2003.

Date	Chinook	Sockeye	Coho	Pink	Chum	All
1977	14,790	2,052,291	192,593	553,855	1,233,436	4,046,965
1978	17,299	2,621,421	219,193	1,688,442	571,779	5,118,134
1979	13,738	924,406	265,164	72,980	649,758	1,926,046
1980	13,798	1,573,588	271,416	1,786,421	387,815	4,033,038
1981	12,240	1,439,262	484,405	127,143	831,977	2,895,027
1982	20,870	3,259,864	792,224	790,644	1,432,940	6,296,542
1983	20,634	5,049,733	516,322	70,327	1,114,858	6,771,874
1984	10,062	2,106,714	449,993	617,452	680,726	3,864,947
1985	24,088	4,060,429	667,213	87,828	772,849	5,612,407
1986	39,242	4,788,492	756,864	1,299,379	1,134,173	8,018,150
1987	39,661	9,500,186	451,133	109,801	348,926	10,449,707
1988	29,060	6,834,342	559,922	469,968	708,573	8,601,865
1989	26,742	5,010,698	339,201	67,430	122,027	5,566,098
1990	16,105	3,604,259	501,643	603,434	351,123	5,076,564
1991	13,542	2,178,331	426,487	14,663	280,223	2,913,246
1992	17,171	9,108,353	468,930	695,861	274,303	10,564,618
1993	18,871	4,755,329	306,882	100,934	122,770	5,304,786
1994	19,941	3,565,586	583,793	523,434	303,177	4,995,931
1995	17,893	2,951,827	446,954	133,575	529,422	4,079,671
1996	14,306	3,888,922	321,668	242,911	156,501	4,624,308
1997	13,292	4,176,738	152,404	70,933	103,036	4,516,403
1998	8,124	1,219,242	160,660	551,260	95,654	2,034,940
1999	14,383	2,680,510	125,908	16,174	174,541	3,011,516
2000	7,350	1,322,482	236,871	146,482	127,069	1,838,620
2001	9,295	1,826,833	113,311	72,559	84,494	2,082,984
2002 ^b	12,714	2,773,118	246,281	446,960	237,949	3,680,725
Mean	17,893	3,587,421	386,824	436,956	493,465	4,920,197
2003	16,958	3,471,804	100,413 ^a	48,780	120,741	3,758,696

Source: Fox and Shields *In prep*, Appendix A6.

^a Preliminary data.

^b Harvest data prior to 2002 reflect minor adjustments to historical catch database

Appendix B3.-Upper Cook Inlet commercial salmon catch from the Central District driftnet fishery, 1977-2003.

Date	Chinook	Sockeye	Coho	Pink	Chum	All
1977	3,411	1,073,098	110,184	286,308	1,153,454	2,626,455
1978	2,072	1,803,479	76,259	934,442	489,119	3,305,371
1979	1,089	454,707	114,496	19,554	609,239	1,199,085
1980	889	770,247	89,510	964,526	339,970	2,165,142
1981	2,320	633,380	226,366	53,888	756,922	1,672,876
1982	1,293	2,103,429	416,274	270,380	1,348,510	4,139,886
1983	1,125	3,222,428	326,965	26,629	1,044,636	4,621,783
1984	1,377	1,235,337	213,423	273,565	568,097	2,291,799
1985	2,048	2,032,957	357,388	34,228	700,848	3,127,469
1986	1,834	2,834,534	506,405	614,453	1,012,028	4,969,254
1987	4,552	5,631,746	202,306	38,660	211,580	6,088,844
1988	2,217	4,129,878	277,703	226,776	580,650	5,217,224
1989			743	1	72	816
1990	621	2,305,331	247,357	323,759	289,447	3,166,515
1991	246	1,118,115	175,782	5,791	215,469	1,515,403
1992	615	6,069,495	267,300	423,738	232,955	6,994,103
1993	765	2,558,732	121,829	46,463	88,826	2,816,615
1994	464	1,901,452	310,114	256,248	249,748	2,718,026
1995	594	1,773,873	241,473	64,632	468,224	2,548,796
1996	389	2,205,067	171,434	122,728	140,968	2,640,586
1997	627	2,197,736	78,662	29,917	92,163	2,399,105
1998	335	599,202	83,338	200,382	88,036	971,293
1999	575	1,413,995	64,814	3,552	166,612	1,649,548
2000	270	656,427	131,478	90,508	118,074	996,757
2001	619	846,257	39,418	31,218	75,599	993,111
2002 ^c	415	1,367,251	125,831	224,229	224,587	1,942,313
Mean ^b	1,230	2,037,526	199,044	222,663	450,630	2,911,094
2003	1,236	1,590,339	52,421 ^a	30,369	106,467	1,780,832

Source: Fox and Shields *In prep*, Appendices A1-A5.

^a preliminary data

^b 1989 not used in average as harvest curtailed by Exxon Valdez oil spill.

^c Harvest data prior to 2002 reflect minor adjustments to historical catch database.

Appendix B4.-Upper Cook Inlet commercial salmon catch from the Central District western setnet fishery, 1977-2003.

Date	Chinook	Sockeye	Coho	Pink	Chum	All
1977	1,084	104,265	38,093	25,212	54,708	223,362
1978	2,093	105,767	61,711	54,785	40,946	265,302
1979	2,264	108,422	68,306	7,061	30,342	216,395
1980	2,273	137,882	51,527	47,963	28,970	268,615
1981	837	60,217	88,390	4,276	26,461	180,181
1982	3,203	66,952	182,205	14,242	36,647	303,249
1983	3,534	134,575	97,796	3,785	38,079	277,769
1984	1,516	162,139	84,618	16,708	34,207	299,188
1985	2,427	285,081	147,331	5,653	31,746	472,238
1986	2,108	153,714	85,932	15,460	39,078	296,292
1987	1,029	208,036	74,930	5,229	53,558	342,782
1988	1,137	146,154	77,058	9,890	40,354	274,593
1989	3,092	186,828	81,004	5,580	27,705	304,209
1990	1,763	84,949	73,429	10,302	21,355	191,798
1991	1,544	99,859	87,968	1,049	22,974	213,394
1992	1,284	131,304	53,419	4,250	13,180	203,437
1993	720	108,181	35,661	2,313	5,566	152,441
1994	730	85,830	61,166	3,178	10,443	161,347
1995	1,101	107,640	71,431	3,810	13,820	197,802
1996	395	96,719	31,405	3,792	2,314	134,625
1997	207	48,723	16,705	4,701	1,770	72,106
1998	155	47,165	24,286	7,231	2,953	81,790
1999	1,533	114,454	17,725	2,674	3,567	139,953
2000	1,089	92,477	22,840	11,983	4,386	132,775
2001	856	59,709	23,719	3,988	6,445	94,717
2002 ^b	926	69,609	35,005	1,736	6,671	113,947
Mean	1,496	115,640	65,141	10,648	23,009	215,935
2003	242	63,981	12,438 ^a	312	7,552	84,525

Source: Fox and Shields *In prep*, Appendix A6.

Note: data presented in this table include catch from west Kalgin Island. Earlier AMR's present western setnet only.

^a preliminary data

^b Harvest data prior to 2002 reflect minor adjustments to historical catch database.

Appendix B5.-Upper Cook Inlet commercial salmon catch from all northern districts (East and General [west] subdistricts), 1977-2003.

Date	Chinook	Sockeye	Coho	Pink	Chum	All
1977	565	123,750	20,623	116,518	23,861	285,317
1978	666	51,378	47,089	326,614	37,151	462,898
1979	1,714	113,918	53,078	26,382	9,310	204,402
1980	993	105,647	90,098	474,488	16,728	687,954
1981	725	249,662	133,625	53,325	46,208	483,545
1982	2,716	118,060	85,352	73,307	43,006	322,441
1983	933	184,219	53,867	21,604	29,321	289,944
1984	1,004	218,965	114,786	106,284	74,727	515,766
1985	1,890	181,191	91,837	30,232	36,122	341,272
1986	15,488	141,830	88,108	139,002	76,040	460,468
1987	12,701	164,602	98,920	18,205	67,180	361,608
1988	12,836	129,713	149,742	54,210	75,728	422,229
1989	12,731	280,801	175,710	23,878	81,948	575,068
1990	9,582	96,398	140,506	43,944	35,710	326,140
1991	6,859	116,201	132,302	5,153	39,393	299,908
1992	4,554	69,478	91,133	23,805	25,301	214,271
1993	3,307	146,633	106,294	10,468	25,401	292,103
1994	3,185	120,142	144,064	29,181	40,059	336,631
1995	4,130	109,098	89,300	11,713	43,667	257,908
1996	1,958	104,128	78,105	20,674	11,771	216,636
1997	1,133	97,455	37,369	4,269	7,881	148,107
1998	2,547	60,650	34,359	11,555	3,977	113,088
1999	2,812	59,115	31,446	593	3,989	97,955
2000	2,307	43,831	71,475	20,245	4,284	142,142
2001	1,811	50,848	45,928	4,355	2,202	105,144
2002 ^b	1,895	33,100	50,292	6,224	4,901	96,412
Mean	4,271	121,954	86,746	63,701	33,303	309,975
2003	1,159	48,055	22,751 ^a	1,562	4,480	78,007

Source Fox and Shields In prep, Appendices A1-A5.

^a Preliminary data

^b Harvest data prior to 2002 reflect minor adjustments to historical catch database.

Appendix B6.-Upper Cook Inlet commercial salmon catch from the Northern District General (west) Subdistrict, 1977-2003.

Date	Chinook	Sockeye	Coho	Pink	Chum	All
1977	511	88,699	15,892	102,679	22,252	230,033
1978	388	33,085	35,146	301,873	35,658	406,150
1979	1,418	51,537	34,943	22,627	8,717	119,242
1980	745	61,570	78,988	447,879	14,331	603,513
1981	634	148,806	118,055	45,951	41,789	355,235
1982	2,003	66,940	63,712	66,112	31,850	230,617
1983	841	117,015	42,089	20,749	26,556	207,250
1984	872	140,710	88,907	83,810	65,132	379,431
1985	1,539	112,733	68,260	27,386	32,418	242,336
1986	13,462	94,849	68,994	118,537	67,426	363,268
1987	10,775	97,089	64,082	13,215	53,159	238,320
1988	11,592	98,289	123,356	46,441	70,136	349,814
1989	10,333	201,268	133,952	20,731	64,042	430,326
1990	7,094	69,386	107,457	35,491	31,833	251,261
1991	5,750	81,909	104,896	4,223	34,862	231,640
1992	3,808	54,024	68,159	17,419	24,292	167,702
1993	2,804	120,032	87,227	9,164	23,873	243,100
1994	2,779	90,808	114,759	25,672	36,636	270,654
1995	3,282	85,865	77,312	8,784	41,282	216,525
1996	1,855	80,984	61,661	18,427	11,455	174,382
1997	945	87,091	35,150	3,940	7,446	134,572
1998	1,813	42,314	23,159	6,812	3,662	77,760
1999	2,398	37,133	23,710	486	3,633	67,360
2000	2,093	31,774	53,066	11,897	3,896	102,726
2001	1,561	25,584	34,456	2,700	1,855	66,156
2002 ^a	1,307	22,532	36,494	4,380	4,463	69,176
Mean	3,562	82,386	67,842	56,438	29,333	239,560
2003	794	25,131	13,486 ^b	648	3,756	43,815

^a Harvest data prior to 2002 reflect minor adjustments to historical catch database.

^b Preliminary data

Appendix B7.-Upper Cook Inlet commercial salmon catch from Northern District, Eastern Subdistrict, 1977-2003.

Date	Chinook	Sockeye	Coho	Pink	Chum	All
1977	54	35,051	4,731	13,839	1,609	55,284
1978	278	18,293	11,943	24,741	1,493	56,748
1979	296	62,381	18,135	3,755	593	85,160
1980	248	44,077	11,110	26,609	2,397	84,441
1981	91	100,856	15,570	7,374	4,419	128,310
1982	713	51,120	21,640	7,195	11,156	91,824
1983	92	67,204	11,778	855	2,765	82,694
1984	132	78,255	25,879	22,474	9,595	136,335
1985	351	68,458	23,577	2,846	3,704	98,936
1986	2,026	46,981	19,114	20,465	8,614	97,200
1987	1,926	67,513	34,838	4,990	14,021	123,288
1988	1,244	31,424	26,386	7,769	5,592	72,415
1989	2,398	79,533	41,758	3,147	17,906	144,742
1990	2,488	27,012	33,049	8,453	3,877	74,879
1991	1,109	34,292	27,406	930	4,531	68,268
1992	746	15,454	22,974	6,386	1,009	46,569
1993	503	26,601	19,067	1,304	1,528	49,003
1994	406	29,334	29,305	3,509	3,423	65,977
1995	848	23,233	11,988	2,929	2,385	41,383
1996	103	23,144	16,444	2,247	316	42,254
1997	188	10,364	2,219	329	435	13,535
1998	734	18,336	11,200	4,743	315	35,328
1999	414	21,982	7,736	107	356	30,595
2000	214	12,057	18,409	8,348	388	39,416
2001	250	25,264	11,472	1,655	347	38,988
2002 ^a	588	10,568	13,798	1,844	438	27,236
Mean	709	39,569	18,905	7,263	3,970	70,416
2003	365	22,924	9,265 ^b	914	724	34,192

^a Harvest data prior to 2002 reflect minor adjustments to historical catch database.

^b Preliminary data

Appendix B8.-Northern District commercial chinook salmon harvest by period, Cook Inlet, 1986-2003.

Year	Period ^a				Directed Total	NCI Season Total	UCI Season Total
	1	2	3	4			
1986	3,842	5,218	4,711		13,771	15,488	39,242
1987	3,365	3,397	3,754	1,025	11,541	12,701	39,661
1988	3,511	3,676	3,935		11,122	12,836	29,060
1989	4,148	4,935	1,985		11,068	12,731	26,742
1990	2,928	3,041	2,103		8,072	9,582	16,105
1991	2,854	1,688	1,431	322	6,295	6,859	13,542
1992	911	2,191	816		3,918	4,554	17,171
1993	1,196	1,757	118		3,071	3,307	18,871
1994	1,680	1,326			3,006	3,185	19,941
1995	3,837				3,837	4,130	17,893
1996	1,677				1,677	1,958	14,306
1997	834			51	885	1,133	13,292
1998	1,283	881			2,164	2,547	8,124
1999	1,747	367			2,114	2,812	14,383
2000	986	817	206		2,009	2,307	7,350
2001	620	792	190		1,602	1,811	9,295
2002 ^b	260	791	662		1,713	1,895	12,714
Mean	2,099	2,206	1,810	466	5,169	5,873	18,688
2003	143	203	315		661	1,159	16,958

Note: Data through 1989 from commercial fish catch database. Data 1990-2003 from fish ticket database.

^a Fishing periods established by Northern District King Salmon Management Plan (5 AAC 21.366). The season occurs on Mondays, June 1-24, 7:00 a.m. to 1:00 p.m. and is closed when the 12,500 chinook salmon quota is achieved, or to address conservation concerns.

^b Harvest data prior to 2002 reflect minor adjustments to historical catch database.

Appendix B9.-Knik Arm commercial set gillnet harvest, 1987-2003.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1987	^a	24,090	2,043	264	403	26,800
1988	9	38,251	11,604	591	2,733	53,188
1989	4	47,925	6,075	545	4,979	59,528
1990	4	23,450	5,708	696	5,308	35,166
1991	^a	10,459	1,630	21	961	13,071
1992	^a	10,748	1,817	573	1,289	14,427
1993	^a	47,751	831	29	990	49,601
1994	0	7,528	809	141	357	8,835
1995	5	19,477	1,999	72	1,018	22,571
1996	0	35,245	1,802	25	448	37,520
1997	1	13791	85	1	31	13,909
1998	0	2,597	548	0	105	3,250
1999			No fishery in 1999			
2000			No fishery in 2000			
2001			No fishery in 2001			
2002			No fishery in 2002			
Mean	3	23,443	2,913	247	1,552	28,156
2003			No fishery in 2003			

Note: Harvest from statistical area 247-50. Ruesch et al. 1987, Ruesch and Browning 1989, Ruesch 1990 and 1991, Ruesch and Fox 1992, 1994-1999, Fox and Ruesch 1992, Fox and Shields 2000-2003.

^a Not reported.

Appendix B10.-Upper Cook Inlet commercial fisheries season summary for 2003.

The Upper Cook Inlet (UCI) commercial harvest of 3.8 million salmon in 2003 was slightly below the average annual harvest since 1960 (Table 1). This was also the highest total salmon harvest since 1997. The exvessel value of \$14 million is the highest in the past 4 years, but significantly less than the 1960-2002 average annual value of \$22.7 million; the peak exvessel vessel of \$120 million occurred in 1988 while the 1987 to 1992 average annual exvessel value in UCI was more than \$73 million. As is the case statewide, prices paid for all salmon, and sockeye in particular, remain low, thereby depressing exvessel values even in moderate sized salmon runs as experienced in 2003.

<u>System</u>	<u>Escapement</u>	<u>Lower Goal</u>	<u>Upper Goal</u>
Crescent River	122,909	25,000	50,000
Fish Creek	91,873	20,000	70,000
Kasilof River	359,778	150,000	250,000 ^a
Kenai River ^b	1,181,759	750,000	950,000
Yentna River	177,154	90,000	160,000

^a The Biological Escapement Goal (BEG) for the Kasilof River is 150,000 to 250,000 with an Optimum Escapement Goal (OEG) of 300,000 when necessary to achieve the minimum Kenai River escapement.

^b The BEG in the Kenai River is 500,000 to 800,000 with an OEG of 500,000 to 1,000,000. There are three tiers of inriver sonar goals depending on run strength, in runs under 2 million the sonar goal is 600,000-850,000, in runs of 2-4 million the sonar goal is 750,000-950,000 and in runs over 4 million the sonar goal is 850,000 to 1,100,000. When the inriver sport harvest is subtracted the final escapement should be near or within the BEG range.

Sockeye Salmon

The preseason forecast in 2003 was for a total run to the inlet of 3.9 million sockeye salmon, with a commercial harvest estimate of approximately 2.0 million from all systems. The actual UCI preliminary harvest estimate of 3.5 million sockeye salmon was 75 percent more than the preseason projection. Four models were used to forecast the run of sockeye salmon to the Kenai, Kasilof, Susitna and Crescent Rivers, and Fish Creek in 2003: (1) the relationship between adult returns and spawners, (2) the relationship between adult returns and fry, (3) the relationship between adult returns and smolts, and (4) the relationship between adult returns and siblings. While sibling relationships were used to forecast returns to most river systems, the return of age 1.3 sockeye salmon to the Kenai River was forecast using a model based on the abundance of sockeye salmon fry rearing in Skilak and Kenai lakes in the fall of 1999. This model was used as it had been the better indicator of adult runs for the past few years. However, the model using the relationship between adult returns and siblings estimated that as many as 1.6 million more age 1.3 sockeye salmon would return to the Kenai River in 2003 than the fry model projected. While age-composition analyses have not yet been completed, the total Kenai River run of sockeye salmon in 2003 was approximately 1.7 million more than forecast.

	Forecast	Actual		
System	Return	Return	Difference	% Difference
Crescent River	115,000	156,000	+41,000	+36%
Fish Creek	125,000	175,000	+50,000	+40%
Kasilof River	677,000	1,004,000	+327,000	+48%
Kenai River	2,044,000	3,700,000	+1,656,000	+81%
Susitna River	397,000	613,000	+216,000	+54%
Minor Systems	504,000	573,000	+69,000	+14%
Overall Total	3,862,000	6,220,000	+2,360,000	+61%

The forecasted run to the Kenai River in 2003 was 2.044 million sockeye salmon. If the actual run was between 2 and 4 million, the inriver sonar goal for the Kenai River would be 750,000 to 950,000 salmon past the sonar counter at river-mile 19. During the previous 4 years, however, the actual run of sockeye salmon to the Kenai River diverged enough from the preseason forecasts that the escapement goal range had to be changed in the middle of the fishing season for 4 consecutive years. At the 2002 Board of Fisheries meeting, these inseason goal changes were discussed, and to help ameliorate the problem, a strategy was mapped out to manage the fishery conservatively, as if the return was under 2.0 million until approximately July 20 or until an inseason assessment of the total Kenai River sockeye salmon run could be made. At that time, both commercial and inriver fisheries could be liberalized simultaneously, if the run warranted. This strategy was discussed and became part of the preseason management strategy memo between Sport Fish and Commercial Fish divisions in Central Region prior to the 2003 fishing season. In 2003, on July 22 the total sockeye salmon run to the Kenai River was projected to be between 2.0 and 4.0 million. This was the first year since the abundance-based goals were established that the inriver sonar goal did not change inseason. The final Kenai River escapement of approximately 1.2 million sockeye salmon was nearly 250,000 fish over the upper end of the escapement goal and represented the third highest escapement ever recorded in this system.

The remaining monitored systems also returned at levels above forecast. The Susitna River run exceeded the forecast by approximately 54 percent. The better than expected run to the Susitna River/Yentna River resulted in the highest measured escapement ever recorded in this system. The Kasilof River sockeye salmon run exceeded more than one million fish for the first time since 1992 and also resulted in the second highest escapement ever recorded in this system. The Crescent River run was 36% above forecast and the escapement goal was exceeded for the fifth consecutive year. The 2003 Crescent River sockeye salmon escapement was the second highest escapement ever recorded in this system. Much of the reason for the increased escapement in this system is due to significantly reduced set gillnet activity in the Western Subdistrict. We have opened by emergency order the fishery targeting Crescent River stocks for nearly all of July the past few years, but there are not enough fishermen to achieve the exploitation needed to keep the escapement in check.

Sockeye salmon prices at the beginning of the season were \$0.55 to \$0.65 per pound. Typically this price would have risen by the end of the season, but this did not occur in 2003. The total exvessel value

in Upper Cook Inlet for sockeye salmon was approximately \$14 million, which was 96% of the total UCI exvessel value for salmon. For the first time since 1985, the upper ends of all sockeye salmon escapement goal ranges in UCI were exceeded.

Coho Salmon

The 2003 coho salmon harvest of 103,000 was less than half of the recent 10-year average harvest. The coho run in 2003 was judged to be about average, but significantly below the record runs experienced in each of the last 3 years. Commercial coho salmon harvests in UCI during the 1980s and early 1990s were much higher than the long-term average due to good coho salmon production, and also due to strong sockeye salmon returns to Upper Cook Inlet, which resulted in more fishing time in the Central District. Since 1996, BOF regulations have reduced the fishing time of the drift fleet in the Central District and eliminated additional fishing time directed at coho salmon surpluses in the Northern District and in the Kalgin Island and Upper Subdistricts of the Central District, which has resulted in marked reductions in the commercial exploitation rate. For systems with escapement goals, the lower end of escapement objectives were generally met or exceeded and overall run strength appeared to be about average. The exvessel value of coho salmon to the commercial fishery was approximately \$134,000 or 1.0 percent of the total exvessel value.

Pink Salmon

The 2003 harvest of 52,000 pink salmon is approximately half of the odd year average harvest for the last 33 years. It is much lower than the long-term average harvest due to restrictions to fisheries to protect other stocks and also due to low prices paid for pink salmon. The low prices have resulted in commercial fishers avoiding pink salmon, especially when sockeye salmon are present in large numbers. Pink salmon escapements are not monitored in Upper Cook Inlet to an appreciable degree; however, it appears that escapements to most river systems were very good. Prices paid for pink salmon were \$.03 to \$.07 per pound, resulting in an exvessel value for this species of \$9,000 or less than one tenth of one percent of the total exvessel value.

Chum Salmon

The 2003 harvest of 121,000 chum salmon was below the long-term average harvest of 505,000. The 2003 chum salmon run was not much different than recent year's runs or harvests. Much of this reduction in harvest has been the result of reduced fishing time in traditional areas, primarily by the drift fleet. Since the flood of 1986, chum salmon production in much of southcentral Alaska has been poor, with recent harvests well below the long-term average harvest of 505,000. Since 1995-1996, small improvements have occurred each year, and chum salmon runs to most of Cook Inlet in 2003 were very good. Fishermen were paid \$.10 to \$.15 per pound for chum salmon, producing an exvessel value of \$108,000 - which is just .8% of the overall fishery value.

Chinook Salmon

The 2003 harvest of 18,000 chinook salmon is above the long-term average harvest by approximately 2,000 chinook salmon. The two fisheries where chinook salmon are harvested in appreciable numbers in UCI are in the Northern District and in the Upper Subdistrict of the Central District. After experiencing a significant downturn in the early to mid 1990s, Northern District chinook salmon stocks continue to trend sharply upward and most escapement goals are being met or exceeded. Harvests in the Northern District chinook salmon fishery remain low due to reduced participation and regulatory

closures of the highest producing sites north of the Theodore River. Late-run Kenai River chinook salmon runs have been relatively stable and escapement objectives have been consistently achieved or exceeded. In 2003 the commercial harvest in the Upper Subdistrict set gillnet fishery of 15,180 chinook salmon was the highest harvest since 1994. Much of this harvest (approximately 40%) was comprised of fish less than 28 inches in length. In 2003, the exvessel value for chinook salmon was valued at \$296,000, which is approximately 2.1 percent of the total exvessel value.

Table B10.-Upper Cook Inlet commercial salmon harvest by species, 1954-2003.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1954	63,780	1,207,046	321,525	2,189,207	510,068	4,291,626
1955	45,926	1,027,528	170,777	101,680	248,343	1,594,254
1956	64,977	1,258,789	198,189	1,595,375	782,051	3,899,381
1957	42,158	643,712	125,434	21,228	1,001,470	1,834,002
1958	22,727	477,392	239,765	1,648,548	471,697	2,860,129
1959	32,651	612,676	106,312	12,527	300,319	1,064,485
1960	27,512	923,314	311,461	1,411,605	659,997	3,333,889
1961	19,737	1,162,303	117,778	34,017	349,628	1,683,463
1962	20,210	1,147,573	350,324	2,711,689	970,582	5,200,378
1963	17,536	942,980	197,140	30,436	387,027	1,575,119
1964	4,531	970,055	452,654	3,231,961	1,079,084	5,738,285
1965	9,741	1,412,350	153,619	23,963	316,444	1,916,117
1966	8,544	1,852,114	289,837	2,005,745	532,756	4,688,996
1967	7,859	1,380,062	177,729	32,229	296,837	1,894,716
1968	4,536	1,104,896	468,160	2,276,993	1,107,903	4,962,488
1969	12,386	691,815	100,684	32,499	267,686	1,105,070
1970	8,336	732,572	275,205	814,760	750,774	2,581,647
1971	19,765	636,289	100,362	35,590	323,945	1,115,951
1972	16,086	879,811	80,896	628,566	626,414	2,231,773
1973	5,194	670,098	104,420	326,184	667,573	1,773,469
1974	6,596	497,185	200,125	483,730	396,840	1,584,476
1975	4,787	684,751	227,376	336,330	951,588	2,204,832
1976	10,865	1,664,149	208,663	1,256,728	469,180	3,609,585
1977	14,790	2,052,291	192,593	553,855	1,233,436	4,046,965
1978	17,299	2,621,421	219,193	1,688,442	571,779	5,118,134
1979	13,738	924,406	265,164	72,980	649,758	1,926,046
1980	13,798	1,573,588	271,416	1,786,421	387,815	4,033,038
1981	12,240	1,439,262	484,405	127,143	831,977	2,895,027
1982	20,870	3,259,864	792,224	790,644	1,432,940	6,296,542
1983	20,634	5,049,733	516,322	70,327	1,114,858	6,771,874
1984	10,062	2,106,714	449,993	617,452	680,726	3,864,947
1985	24,088	4,060,429	667,213	87,828	772,849	5,612,407
1986	39,242	4,788,492	756,864	1,299,379	1,134,173	8,018,150
1987	39,661	9,500,186	451,133	109,801	348,926	10,449,707
1988	29,060	6,834,342	559,922	469,968	708,573	8,601,865
1989	26,742	5,010,698	339,201	67,430	122,027	5,566,098
1990	16,105	3,604,259	501,643	603,434	351,123	5,076,564
1991	13,542	2,178,331	426,487	14,663	280,223	2,913,246
1992	17,171	9,108,353	468,930	695,861	274,303	10,564,618
1993	18,749	4,755,012	306,858	100,918	122,767	5,304,304
1994	19,937	3,543,047	579,954	518,747	299,323	4,961,008
1995	17,860	2,960,646	450,787	133,850	531,215	4,094,358
1996	14,248	3,888,778	321,411	242,911	156,457	4,623,805
1997	13,235	4,176,696	152,404	70,928	103,036	4,516,299
1998	7,997	1,218,956	160,644	551,345	95,654	2,034,596
1999	14,128	2,680,707	125,343	16,129	174,243	3,010,550
2000	7,229	1,322,180	236,128	146,156	126,927	1,838,620
2001	9,295	1,826,833	113,311	72,559	84,494	2,106,492
2002	12,069	2,761,886	244,014	436,380	225,446	3,679,795
2003	18,258	3,524,411	102,237	51,693	121,430	3,818,029
Average						
49 Year	19,170	2,387,020	302,685	652,777	528,094	3,889,744
1994-2003 Avg.	13,426	2,790,414	248,623	224,070	191,823	3,468,355

APPENDIX C

Appendix C1.-Number of fish (actual and planned) stocked into Northern Cook Inlet Management Area waters, 2001-2004.

Species/Life Stage/Site	2001 (Actual)	2002 (Actual)	2003 (Actual)	2004 (Planned)	FTP #	Expiration Date
<u>Chinook Salmon Anadromous</u>						
Eklutna Tailrace	0	106,991	218,492	150,000	00A-0069	12/31/04
Willow Creek	202,479	197,276	101,181	150,000	02A-0057	12/31/07
Total	202,479	304,267	319,673	300,000		
<u>Coho Salmon Anadromous Smolt</u>						
Eklutna Tailrace	124,838	120,629	120,736	120,000	00A-0069	12/31/04
Total	124,838	120,629	120,736	120,000	03A-0009	12/31/07
<u>Coho Salmon Landlocked</u>						
<u>Fingerlings</u>						
Barley Lake	1,900	1,900	1,980	1,900	97A-003	12/31/07
Bear Paw Lake	4,500	9,000	0	4,500	97A-003	12/31/07
Carpenter Lake	22,600	17,600	17,661	15,000	97A-003	12/31/07
Christiansen Lake	17,900	17,900	59,700	15,200	97A-003	12/31/07
Diamond Lake	13,900	13,900	0	11,000	97A-003	12/31/07
Echo Lake	10,896	2,338	13,090	2,300	97A-003	12/31/07
Johnson Lake	1,000	2,000	1,066	1,000	97A-003	12/31/07
Kalmbach Lake	17,491	25,000	9,960	10,000	97A-003	12/31/07
Klaire Lake	900	900	903	900	97A-003	12/31/07
Knik Lake	10,000	0	0	0		
Loberg (Junction) Lake	1,100	1,107	1,124	1,100	97A-003	12/31/07
Prator Lake	9,800	0	0	0		
Victor Lake	2,700	2,700	2,700	2,700	97A-003	12/31/07
Total	114,687	94,345	108,186	65,600		
<u>Chinook Salmon Landlocked</u>						
<u>Catchables</u>						
Finger Lake	37,510	24,922	34,401	30,000	00A-0002	12/31/04
Knik Lake	0	2,075	2,570	2,000	00A-0002	12/31/04
Matanuska Lake	6,214	5,967	2,627	2,000	00A-0002	12/31/04
Memory Lake	0	4,016	3,778	2,000	00A-0002	12/31/04
Prator Lake	0	1,989	1,229	1,200	00A-0002	12/31/04
Victor Lake	0	0	0	800	00A-0002	12/31/04
Total	43,724	38,969	44,605	38,000		
<u>Rainbow Trout Landlocked</u>						
<u>Catchables</u>						
Bearpaw Lake	0	0	380	0		
Bruce Lake	2,814	1,220	1,195	1,200	01A-0010	12/31/05
Canoe Lake	0	1,632	0	0		
Coyote Lake	500	0	300	300	01A-0008	12/31/05
Echo Lake	2,224	1,308	1,455	1,500	01A-0010	12/31/05
Gate Lake	0	0	530	500	01A-0008	12/31/05
Irene Lake	1,879	1,549	1,727	1,800	01A-0010	12/31/05
Kepler/Bradley Lake	8,830	3,888	7,310	4,000	01A-0010	12/31/05
Knik Lake	5,072	1,997	2,015	2,000	01A-0010	12/31/05
Knob Lake	1,580	1,108	1,332	2,500	01A-0008	12/31/05
Loberg (Junction) Lake	2,115	1,053	1,689	1,700	01A-0010	12/31/05

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Species/Life Stage/Site	2001 (Actual)	2002 (Actual)	2003 (Actual)	2004 (Planned)	FTP #	Expiration Date
<u>Rainbow Trout Landlocked</u>						
<u>Catchables (cont.)</u>						
Long Lake (Mile 86 Glenn Hwy.)	9,421	4,374	5,405	4,650	01A-0010	12/31/05
Lucille Lake	8,927	6,045	8,248	6,450	01A-0006	12/31/05
Matanuska Lake	11,221	5,831	5,729	5,700	01A-0010	12/31/05
Meirs Lake	3,320	1,206	1,200	1,200	01A-0010	12/31/05
Memory Lake	4,511	3,385	3,106	3,500	01A-0010	12/31/05
Mile 180 Lake	3,165	2,400	2,269	2,200	01A-0008	12/31/05
North Knob Lake	1,022	809	1,866	750	01A-0008	12/31/05
Ravine Lake	1,501	1,512	1,197	1,250	01A-0010	12/31/05
Rocky Lake	3,000	1,740	1,846	1,900	01A-0010	12/31/05
Slipper (Eska) Lake	900	1,513	1,505	1,500	01A-0008	12/31/05
South Rolly Lake	5,400	5,268	4,753	5,400	01A-0006	12/31/05
Tanaina Lake	2,700	5,017	5,064	5,000	01A-0006	12/31/05
Walby Lake	4,544	3,029	0	1,500	01A-0008	12/31/05
Weiner Lake	2,000	2,030	1,960	2,000	01A-0008	12/31/05
Willow Lake	5,800	3,518	6,381	5,000	01A-0008	12/31/05
Total	92,446	61,432	70,529	63,500		
<u>Rainbow Trout Landlocked</u>						
<u>Fingerlings</u>						
Barley Lake	1,900	1,900	1,980	1,900	01A-0004	12/31/05
Bear Paw Lake	2,300	2,300	4,664	2,300	01A-0004	12/31/05
Bench Lake	1,724	0	2,445	0	01A-0003	12/31/05
Benka	8,000	6,600	8,000	6,000	01A-0004	12/31/05
Beverly Lake	4,205	4,200	2,083	4,200	01A-0003	12/31/05
Big Beaver Lake	16,100	16,100	16,119	16,100	01A-0003	12/31/05
Boot Lake	3,200	3,200	6,623	3,200	01A-0004	12/31/05
Brockner Lake	4,200	3,181	0	4,200	01A-0003	12/31/05
Buck Lake	2,400	2,200	0	2,400	01A-0003	12/31/05
Butterfly Lake	5,000	3,787	2,539	5,000	01A-0003	12/31/05
Carpenter Lake	17,600	19,100	29,861	17,600	01A-0004	12/31/05
Christiansen Lake	9,000	15,000	23,410	11,600	01A-0004	12/31/05
Cranberry Lake	6,400	6,400	6,795	6,400	01A-0003	12/31/05
Crystal Lake	10,200	10,200	5,127	10,200	01A-0009	12/31/05
Dawn Lake	2,442	2,400	2,450	2,400	01A-0009	12/31/05
Diamond Lake	13,900	13,900	23,494	13,900	01A-0004	12/31/05
Farmer Lake	1,100	1,300	2,210	1,100	01A-0004	12/31/05
Finger Lake	33,200	32,923	65,032	33,200	01A-0004	12/31/05
Florence Lake	5,500	5,500	11,017	5,500	01A-0004	12/31/05
Golden Lake	1,500	1,500	3,034	1,500	01A-0004	12/31/05
Homestead Lake	1,726	1,700	1,734	1,700	01A-0009	12/31/05
Honeybee Lake	5,800	6,800	10,100	6,800	01A-0004	12/31/05
Ida Lake	4,672	4,600	9,600	4,600	01A-0004	12/31/05
Johnson	0	0	4,110	2,000	01A-0004	12/31/05
Kalmbach Lake	12,500	12,500	25,202	12,500	01A-0004	12/31/05
Kashwitna Lake	16,000	16,000	8,032	16,000	01A-0003	12/31/05
Lalen Lake	9,200	9,200	4,635	9,200	01A-0003	12/31/05

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Species/Life Stage/Site			2001 (Actual)	2002 (Actual)	2003 (Actual)	2004 (Planned)	FTP #	Expiration Date
Rainbow	Trout	Landlocked						
<u>Fingerlings (Continued)</u>								
	Little Beaver Lake		4,400	4,400	5,540	4,400	01A-0003	12/31/05
	Little Lonely Lake		10,200	12,800	16,827	8,400	01A-0004	12/31/05
	Long Lake		7,400	7,432	10,414	5,400	01A-0004	12/31/05
	(Kepler/Bradley)							
	Loon Lake		10,800	10,800	5,416	10,800	01A-0009	12/31/05
	Lorraine Lake		13,200	11,300	26,458	13,200	01A-0004	12/31/05
	Lynne Lake		7,000	8,000	30,813	8,000	01A-0004	12/31/05
	Marion Lake		11,300	11,300	22,311	11,300	01A-0004	12/31/05
	Morvro Lake		4,500	4,500	0	4,500	01A-0009	12/31/05
	North Friend Lake		8,100	9,000	4,055	8,100	01A-0003	12/31/05
	North Rolly Lake		0	0	9,856	5,900	01A-0003	12/31/05
	Peggy Lake		4,500	5,300	9,600	4,800	01A-0004	12/31/05
	Prator Lake		4,400	0	0	0	01A-0004	12/31/05
	Reed Lake		2,000	2,076	2,033	2,000	01A-0004	12/31/05
	Rhein Lake		0	0	4,196	12,900	01A-0003	12/31/05
	Ruby Lake		2,400	2,403	0	2,400	01A-0003	12/31/05
	Seventeenmile Lake		10,075	10,000	20,950	10,000	01A-0004	12/31/05
	Seymour Lake		22,900	22,900	30,388	22,900	01A-0009	12/31/05
	South Friend Lake		5,600	6,300	2,812	5,600	01A-0003	12/31/05
	Threemile Lake		0	4,848	0	3,000	01A-0003	12/31/05
	Tigger Lake		2,900	2,750	5,275	2,500	01A-0004	12/31/05
	Twelvemile Lake		5,600	0	0	0	01A-0003	12/31/05
	Twin Island Lake		15,100	15,100	7,569	15,100	01A-0003	12/31/05
	Vera Lake		11,100	11,100	5,660	11,100	01A-0003	12/31/05
	Visnaw Lake		13,100	13,100	6,353	13,100	01A-0003	12/31/05
	Walby Lake		5,400	0	1,713	0	01A-0009	12/31/05
	West Beaver		0	0	10,349	8,250	01A-0003	12/31/05
	West Sunshine Lake		0	9,000	0	4,500	01A-0003	12/31/05
	Wishbone Lake		2,600	0	2,625	0	01A-0003	12/31/05
	Wolf Lake		12,400	12,393	4,682	9,300	01A-0009	12/31/05
	"X" Lake		5,400	5,600	0	5,100	01A-0004	12/31/05
	"Y" Lake		5,500	4,400	14,200	4,000	01A-0004	12/31/05
	Total		407,644	409,293	581,617	418,050		
Arctic	Grayling	Landlocked						
<u>Catchables</u>								
	Bruce Lake		500	432	500	0	97A-0005	12/31/06
	Canoe Lake		1,768	2,040	2,000	0	97A-0005	12/31/06
	Finger Lake		4,174	3,848	4,080	0	97A-0005	12/31/06
	Florence Lake		989	1,288	1,200	0	97A-0005	12/31/06
	Ida Lake		0	947	0	0	97A-0005	12/31/06
	Kepler/Bradley Lake		3,211	5,701	2,968	0	97A-0005	12/31/06
	Knik Lake		1,200	915	2,000	0	97A-0005	12/31/06
	Lorraine Lake		1,780	1,600	250	0	97A-0005	12/31/06
	Meirs Lake		2,000	2,009	1,947	0	97A-0005	12/31/06
	Reed Lake		1,019	940	1,085	0	97A-0005	12/31/06
	Total		16,641	21,708	16,030	0		

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Species/Life Stage/Site	2001 (Actual)	2002 (Actual)	2003 (Actual)	2004 (Planned)	FTP #	Expiration Date
<u>Arctic Grayling Landlocked</u>						
<u>Fingerling</u>						
Bruce Lake	0	0	500	0	97A-0005	12/31/06
Canoe Lake	0	5,000	2,000	2,000	97A-0005	12/31/06
Finger Lake	0	4,006	0	4,000	97A-0005	12/31/06
Florence Lake	0	0	1,000	1,000	97A-0005	12/31/06
Ida Lake	0	0	1,000	1,000	97A-0005	12/31/06
Kepler/Bradley Lake	0	5,000	3,000	3,000	97A-0005	12/31/06
Knik Lake	0	0	1,000	1,000	97A-0005	12/31/06
Lorraine Lake	0	0	800	1,300	97A-0005	12/31/06
Meirs Lake	0	0	2,000	2,000	97A-0005	12/31/06
Reed Lake	0	0	1,203	1,000	97A-0005	12/31/06
Total	0	14,006	12,503	16,300		
<u>Arctic Char Landlocked</u>						
<u>Catchables</u>						
Benka Lake	0	0	950	0	00A-0001	12/31/04
Carpenter Lake	0	1,616	0	2,438	00A-0001	12/31/04
Echo Lake	0	2,118	0	750	00A-0001	12/31/04
Finger Lake	0	0	2,000	0	00A-0001	12/31/04
Irene Lake	0	0	887	0	00A-0001	12/31/04
Johnson Lake	0	0	0	450	00A-0001	12/31/04
Long Lake	0	2,996	0	3,000	00A-0001	12/31/04
Lynne Lake	0	1,276	0	1,200	00A-0001	12/31/04
Marion Lake	0	0	908	0	00A-0001	12/31/04
Matanuska Lake	0	0	0	0	00A-0001	12/31/04
Memory Lake	0	400	79	600	00A-0001	12/31/04
Prator Lake	0	636	0	750	00A-0001	12/31/04
Rush Lake	0	200	0	300	00A-0001	12/31/04
Seventeenmile Lake	0	0	1,784	0	00A-0001	12/31/04
Total	0	10,242	7,903	9,488		
<u>Arctic Char Landlocked</u>						
<u>Fingerlings</u>						
Benka Lake	0	0	0	0	00A-0001	12/31/04
Finger Lake	0	0	52,030	0	00A-0001	12/31/04
Irene Lake	0	0	0	0	00A-0001	12/31/04
Long Lake	0	20,070	54,250	0	00A-0001	12/31/04
Lynne Lake	0	0	0	0	00A-0001	12/31/04
Marion Lake	0	0	0	0	00A-0001	12/31/04
Matanuska Lake	0	9,746	1,295	0	00A-0001	12/31/04
Seventeenmile Lake	0	9,996	0	0	00A-0001	12/31/04
Total	0	39,812	106,280	0		
Total Anadromous Stockings	327,317	424,896	440,409	420,000		
Total Landlocked Stockings	681,356	689,807	947,653	610,938		
Total Stockings	1,008,673	1,114,703	1,388,062	1,030,938		

APPENDIX D

Appendix D1.-Emergency orders issued for NCIMA waters during 1991-2003.

Emergency Orders issued in 1991:

1. E.O. No. 2-KS-2-03-91 reduced bag and possession limits within the Chuitna (Chuit), Theodore, Lewis, and Beluga River drainages to 1 king salmon 16 inches or more in length. Effective from May 25 through July 13, 1991.
2. E.O. No. 2-KS-2-16-91 closed the Lewis and Theodore drainages to king salmon fishing, and additionally closed the Chuit River drainage upstream from the Tyonek Road crossing to king salmon fishing. Effective June 25 through July 13, 1991.
3. E.O. No. 2-KS-2-21-91 superseded E.O. 2-KS-2-16-91 and closed Lewis, Theodore and Chuit rivers in their entirety to king salmon fishing. Effective July 4 through July 13, 1991.
4. E.O. No. 2-KS-2-22-91 opened all waters within one-fourth mile radius of Willow Creek's confluence with the Susitna River to fishing for king salmon. Effective July 6 and July 7, 1991.
5. E.O. No. 2-SS-2-27-91 closed to fishing that portion of the Little Susitna River from the fish counting weir located at River Mile 32.5 downstream for a distance of 1,500 feet. Effective July 27 through September 14, 1991.
6. E.O. No. 2-RS-1-29-91 closed sockeye salmon fishing in all waters north of the latitude of Anchor Point. Effective 7:00 a.m. July 26 through December 31, 1991.
7. E.O. No. 2-RS-2-33-91 opened the Fish Creek personal use dip net fishery. Effective July 30 through August 9, 1991.
8. E.O. No. 2-RS-2-34-91 reopened the Little Susitna River drainage and all freshwater drainages of Knik Arm to fishing for sockeye salmon. Effective noon, July 29 through December 31, 1991.
9. E.O. No. 2-RS-2-36-91 rescinded E.O. No. 2-RS-1-29-91, thereby reopening recreational sockeye salmon fisheries within waters of the Kenai Peninsula and Susitna-West Cook Inlet regulatory areas and marine waters of Cook Inlet north of Anchor Point. Effective 7:00 a.m. August 2 through December 31, 1991.
10. E.O. No. 2-CS-2-38-91 closed the Eklutna Power Plant tailrace to sport fishing from the Old Glenn Highway downstream to department markers placed approximately 100 yards upstream of the confluence of the tailrace and the Knik River. Effective noon, August 6 through December 31, 1991.
11. E.O. No. 2-SS-2-42-91 increased bag and possession limits to 5 coho salmon at the Little Susitna River downstream from the department's salmon counting weir at River Mile 32.5. Effective noon, August 14 through December 31, 1991.
12. E.O. No. 2-BB-2-52-91 reduced the bag and possession limits for burbot from 15 per day and in possession to 5 per day and in possession and reduced gear to two closely attended lines while fishing through ice in the Big Lake drainage (Houston area). Effective December 1, 1991 until superseded by regulation or subsequent emergency order.

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13. E.O. No. 2-BB-2-53-91 closed Nancy Lake (Mile 64 Parks Highway) to burbot fishing. Effective December 1, 1991 until superseded by regulation or subsequent emergency order.

Emergency Orders issued in 1992:

1. E.O. No. 2-KS-2-08-92 reduced the length of the king salmon season and reduced the daily bag and possession limit for king salmon to 1 fish greater than 16 inches in length in all waters draining into Cook Inlet between Cape Douglas and the Susitna River, excluding the Susitna River. Additionally, this emergency order required the release of all king salmon 16 inches or more in length and the use of unbaited, artificial lures in all waters of the Chuitna River drainage upstream of a department marker located at the old cable crossing, and all waters of the Theodore River drainage upstream of a department marker located approximately 1 river mile upstream of the main Beluga haul road bridge. Effective May 26 through July 13, 1992.
2. E.O. No. 2-KS-2-12-92 clarified that Willow Creek is open to king salmon fishing on Saturday, Sunday and Monday for 3 consecutive weeks. Effective June 20 through June 22, 1992.
3. E.O. No. 20-KS-2-14-92 opened Willow Creek from its mouth upstream to the Parks Highway bridge and all waters within a one-quarter mile radius of Willow Creek's confluence with the Susitna River to king salmon fishing. Effective June 23 through June 26, 1992.
4. E.O. No. 2-KS-2-15-92 reduced the daily bag limit for king salmon, 16 inches or more in length, to 1 fish in all waters of the Susitna and Little Susitna River drainages. It further required the release of all king salmon, 16 inches or more in length, and the use of unbaited artificial lures in all waters of the Deshka River drainage between the Deshka River's confluence with Trapper Creek and the confluence of Moose and Kroto creeks (The Forks); and in all waters of the Alexander Creek drainage upstream from Alexander Creek's confluence with Trail Creek. Effective June 22 through July 13, 1992.
5. E.O. No. 2-RS-2-21-92 opened the Fish Creek personal use dip net fishery. Dip net fishing was allowed for 3 consecutive days followed by a 1 day closure on a continuing basis. Effective 6:00 a.m. July 23 through August 6, 1992.
6. E.O. No. 2-SS-2-22-92 closed to fishing that portion of the Little Susitna River from the fish counting weir located at River Mile 33 downstream for a distance of 1,500 feet. Effective July 25 through September 14, 1992.
7. E.O. No. 2-RS-2-28-92 closed the Susitna River drainage to sockeye salmon fishing. Effective July 31 through December 31, 1992.
8. E.O. No. 2-SS-2-29-92 increased bag and possession limits to 5 coho salmon 16 inches or more in length downstream from the department's counting weir at River Mile 32.5. Effective August 15 through December 31, 1992.

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Emergency Orders issued in 1993:

1. E.O. No. 2-RS-2-23-93 opened the Fish Creek personal use fishery. The dip net fishery opened 9:00 a.m. July 24 and closed midnight August 6, with the fishery being closed July 26, July 30, and August 3, 1993.
2. E.O. No. 2-SS-2-25-93 closed to fishing that portion of the Little Susitna River from the fish counting weir located at River Mile 33 downstream for a distance of 1,500 feet. Effective July 23 through September 15, 1993.
3. E.O. No. 2-SS-2-32-93 increased the bag and possession limits to 5 coho salmon at the Little Susitna River downstream from the department's counting weir at River Mile 32.5. Effective August 11 through December 31, 1993.
4. E.O. No. 2-SS-2-33-93 closed to fishing that portion of Jim Creek from the fish counting weir located at River Mile 1 downstream for a distance of 500 feet. Effective August 12 through November 1, 1993.

Emergency Orders issued in 1994:

1. E.O. No. 2-RS-2-28-94 opened the Fish Creek personal use fishery. The dip net fishery opened 9:00 a.m. July 27 and closed midnight August 5, with the fishery being closed July 29 and August 2, 1994.
2. E.O. No. 2-RS-2-33-94 supersedes E.O. 2-RS-2-28-94 extending the Fish Creek Personal Use Dip Net Fishery through midnight August 9. Effective August 7, 1994 through August 9, 1994.
3. E.O. No. 2-KS-2-05-94 closed to fishing that portion of the Little Susitna River from the fish counting weir located at River Mile 33 downstream for a distance of 1,500 feet. Effective May 25 through September 15, 1994.
4. E.O. No. 2-SS-2-32-94 increased the bag and possession limits to 5 coho salmon at the Little Susitna River downstream from the department's counting weir at River Mile 32.5. Effective August 6 through December 31, 1994.
5. E.O. No. 2-SS-2-29-94 closed that portion of Jim Creek to fishing from the fish counting weir located at River Mile 1 downstream for a distance of 1,000 feet. Effective July 26, 1994 through November 1, 1994.
6. E.O. No. 2-KS-2-02-94 reduced the chinook salmon possession limit to 1 fish and eliminated the use of bait in the Deshka River. Effective May 1, 1994 through July 13, 1994.
7. E.O. No. 2-KS-2-13-94 closed all waters of the Deshka River drainage to sport fishing for chinook salmon and prohibited the use of bait in the following waters of the Susitna River drainage: (1) all waters of the Susitna River drainage downstream of the Deshka River which flow into the Susitna River from the east and the Alexander Creek drainage, (2) all waters of the Yentna River drainage, (3) all waters of the Talkeetna River drainage, and (4) all waters of the Chulitna River drainage. Effective June 17, 1994 through July 13, 1994.

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Emergency Orders issued in 1995:

1. E.O. No. 2-KS-2-07-95 closed to fishing that portion of the Little Susitna River from the fish counting weir located at River Mile 33 downstream for a distance of 1,900 feet. Effective May 25 through September 15, 1995.
2. E.O. No. 2-KS-2-08-95 established a possession limit of 1 king salmon 16 inches or more in length in the Little Susitna River. Effective May 24 through September 15, 1995.
3. E.O. No. 2-KS-2-21-95 opened Willow Creek from its mouth upstream to the Parks Highway bridge and all waters within a one-quarter mile radius of Willow Creek's confluence with the Susitna River to king salmon fishing effective 12:01 a.m., Tuesday, July 4 through midnight Tuesday, July 4.
4. E.O. No. 2-RS-02-32-95 opened the Fish Creek personal use fishery. The dip net fishery opened 5:00 a.m. July 26 and closed midnight August 8, with the fishery being closed July 28 and August 1 and August 4, 1995.
5. E.O. No. 2-SS-02-40-95 increased the bag and possession limits to 5 coho salmon at the Little Susitna River downstream from the department's counting weir at River Mile 32.5. Effective August 9 through December 31, 1995.

Emergency Orders issued in 1996:

1. E.O. No. 2-S-01-96 closed commercial salmon fishing in the Northern District of Upper Cook Inlet for fishing periods June 10, 17, and 24, 1996.
2. E.O. No. 2-KS-2-27-96 opened Willow, Little Willow, Sheep and Montana creeks from their mouth upstream to the Parks Highway bridge and all waters within a one-quarter mile radius of their confluence with the Susitna River to king salmon fishing effective 12:01 a.m., Thursday, July 4 through midnight Sunday, July 7, 1996.

Emergency Orders issued in 1997:

1. E.O. No. 2-KS-2-15-97 opened the Deshka River, from the mouth to approximately 2 miles upstream and within a one-quarter mile radius of the Susitna River confluence, to fishing for king salmon over 16 inches in length from 6:00 a.m. through 11:00 p.m. daily through July 13, 1997.
2. E.O. No. 2-KS-2-18-97 opened eastside Susitna River streams to king salmon fishing on July 4, 1997.
3. E.O. No. 2-RS-2-25-97 closed Fish Creek dipnetting from 11:00 a.m. July 23 through 11:00 p.m. July 25, 1997.
4. E.O. No. 2-RS-2-28-97 closed Fish Creek dipnetting for the remainder of the 1997 season on July 26, 1997.

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5. E.O. No. 2-SS-02-31-97 prohibited use of bait and reduced daily bag and possession limit of coho salmon to 1 in all waters of Cook Inlet on August 9, 1997. Areas not included were Eklutna Tailrace, Ship, Bird, and Campbell creeks.
6. E.O. No. 2-SS-2-34-97 closed Wasilla Creek downstream from the railroad bridge, including Rabbit Slough and Spring Creek, to sport fishing August 23 through October 31, 1997.

Emergency Orders issued in 1998:

1. E.O. No. 2-KS-2-08-98 establishes that in the Deshka River when an angler harvests a king salmon 16 inches or more in length they must quit fishing for king salmon for the remainder of the day clarifying a regulation that went into effect when the Deshka River was opened to king salmon fishing for the 1998 season.
2. E.O. No. 2-KS-2-09-98 opens Willow Creek for king salmon fishing June 20-22, 1998.
3. E.O. No. 2-KS-2-12-98 adds Friday July 3 as a day open to king salmon fishing in that portion of the Susitna River drainage upstream from its confluence with the Deshka River to its confluence with the Talkeetna River including Susitna River tributaries from Willow Creek to Trapper Creek.
4. E.O. No. 2-KS-2-14-98 closes the Deshka River to all fishing 1,200 feet downstream and 300 feet upstream of the fish counting weir.
5. E.O. No. 2-RS-2-15-98 closes Fish Creek to dipnetting effective July 25, 1998 through July 31, 1998.

Emergency Orders issued in 1999:

1. E.O. No. 2-KS-2-05-99 closed the Deshka River to fishing from 1,000 yards downstream to 200 yards upstream of the fish counting weir.
2. E.O. No. 2-KS-2-07-99 allowed the use of bait in the first 17 miles of the Deshka River and within a ¼ mile radius of the mouth of the Deshka River with the Susitna River, June 22 through July 13, 1999.
3. E.O. No. 2-KS-2-11-99 opened Willow, Little Willow, Sheep and Montana creeks to king salmon fishing for an additional weekend, July 10 through July 12, 1999.
4. E.O. No. 2-RS-2-15-99 closed Fish Creek to dipnetting on July 26, 1999.
5. E.O. No. 2-SS-2-20-99 reduced the bag limit to one coho salmon and no bait for Cottonwood, Wasilla and Fish creeks and the Little Susitna River, on August 19, 1999.

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Emergency Orders issued in 2000:

1. E.O. No. 2-KS-2-04-00 closed the Deshka River to fishing from 1,000 yards downstream to 200 yards upstream of the fish counting weir.
2. E.O. No. 2-KS-2-05-00 allowed the use of bait in the first 17 miles of the Deshka River and within a ¼ mile radius of the mouth of the Deshka River with the Susitna River, June 8 through July 13, 2000.
3. E.O. No. 2-KS-2-11-00 opened Willow, Little Willow, Sheep and Montana creeks to king salmon fishing for an additional day, July 4, 2000.
4. E.O. No. 2-KS-2-12-00 opened East Fork Chulitna River, Willow, Little Willow, Sheep and Montana creeks to king salmon fishing for an additional 3-day weekend, July 8 through July 10, 2000.
5. E.O. No. 2-RS-2-16-00 closed Fish Creek to dipnetting on July 26, 2000.
6. E.O. No. 2-SS-2-17-00 states after keeping two coho below RM 32.5 Little Susitna River, you must quit fishing in the Little Susitna River for the remainder of the day, July 28-December 31.

Emergency Orders issued in 2001:

1. E.O. No. 2-KS-2-03-01 closed the Deshka River to fishing from 1,000 yards downstream to 200 yards upstream of the fish counting weir.
2. E.O. No. 2-KS-2-04-01 allowed the use of bait in the first 17 miles of the Deshka River and within a ¼ mile radius of the mouth of the Deshka River with the Susitna River, June 12 through July 13, 2001.
3. E.O. No. 2-KS-2-09-01 extended king salmon fishing on the Chulitna River downstream of the cable crossing July 1 through July 5.
4. E.O. No. 2-KS-2-13-01 opened Willow Creek to king fishing June 29 at 12:01 a.m.
5. E.O. No. 2-KS-2-15-01 extended king salmon season in the Susitna River drainage upstream from its confluence with the Deshka River to its confluence with the Talkeetna River including Susitna River tributaries Willow Creek to Trapper Creek and the East Fork of the Chulitna River (including the first ¼ mile of Honolulu Creek only). These waters, which were scheduled to close on Monday July 2, were opened through Wednesday, July 4 at 12:00 midnight.
6. E.O. No. 2-RS-2-17-01 closed Fish Creek to dipnetting on July 12 at 11:00 p.m.

Emergency Orders issued in 2002:

1. E.O. No. 2-KS-2-03-02 increased the possession limit to two king salmon in all Westside Susitna River tributaries except Alexander Creek.
2. E.O. No. 2-KS-2-02-02 opened the entire Theodore and Lewis rivers to catch-and-release for king salmon through June 30. Single hook, no bait.

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3. E.O. No. 2-KS-2-04-02 closed the Deshka River to fishing from 1,000 yards downstream to 200 yards upstream of the fish counting weir.
4. E.O. No. 2-KS-2-05-02 allowed the use of bait in the first 17 miles of the Deshka River and within a ¼ mile radius of the mouth of the Deshka River with the Susitna River, June 8 through July 13, 2002.
5. E.O. No. 2-KS-2-17-02 extended king salmon season in Willow, Sheep and Montana creeks 3 days, July 5-7 from 6:00 a.m. to 11:00 p.m.
6. E.O. No. 2-SS-2-29-02 in Fish Creek increased coho bag limit to 3 per day and allowed 24-hour per day fishing on Saturdays and Sundays beginning August 17 at 12:01 a.m. through December 31.

Emergency Orders issued in 2003:

1. E.O. No. 2-KS-2-01-03 closed the Deshka River to fishing from 1,000 yards downstream to 200 yards upstream of the fish counting weir.
2. E.O. No. 2-KS-2-05-03 increased the bag and possession limit of king salmon greater than 20 inches in the Deshka River from one per day and two in possession to two per day and four in possession.
3. E.O. No. 2-KS-2-07-03 rescinded EO 2-KS-2-01-03.
4. E.O. No. 2-KS-2-12-03 extended king salmon season in Willow, Sheep and Montana creeks 3 days, July 4-6 from 6:00 a.m. to 11:00 p.m.

APPENDIX E

Appendix E1.-Chinook salmon regulatory history for NCIMA waters.

Chinook salmon fishing in NCIMA waters was open from statehood through 1963. During 1964 through 1966 chinook salmon fishing in fresh water was closed. During 1967 through 1970 Alexander Creek, Clear Creek, Deshka River and Lake Creek were open in their entirety. This fishery operated over a 15-day season during the middle of June on a 250 fish, over 20 inches in length, harvest quota system. Achievement of the quota may have resulted in early season closure. A 1 fish per day 2 per season bag limit for fish over 20 inches in length was in place and a punch card was a requirement of participation in the fishery. In 1971 the harvest quota was eliminated. During 1971 and 1972, in addition to the 15-day season in Alexander Creek, Deshka River, and Lake Creek, a more restrictive fishery was allowed (few days) in Clear Creek and portions of the Little Susitna River, Ship Creek (Anchorage) and Willow Creek; however, a punch card was still required. In 1973, the area chinook salmon fishery was closed to the harvest of chinook salmon 20 inches or larger in length and remained so through 1978.

Selected Susitna River streams were reopened to chinook salmon fishing in 1979 after being closed for several years because of low stock abundance. Cautious incremental expansion has characterized the area's chinook salmon fisheries since they reopened. From 1979 through 1982 chinook salmon fishing was permitted at Alexander Creek, Lake Creek and at the Deshka River from the fourth Saturday in May through July 6. These streams drain into the Susitna River from the west. Clear Creek, a tributary of the Talkeetna River, also had a similar chinook salmon season. In addition, three eastside tributaries of the Susitna River, Willow, Caswell and Montana creeks, were open on Saturdays and Sundays only for 4 consecutive weekends commencing on the second Saturday in June. Harvest quotas, ranging from 200 to 7,000 chinook salmon, governed these fisheries from 1979 through 1982. The Chuitna River, a coastal stream near Beluga, and the entire Yentna and Talkeetna river drainages were opened to chinook salmon fishing in 1983. The opening date for chinook salmon fisheries that provided continuous daily fishing was also changed to January 1.

In 1984 the remaining coastal streams near Beluga and all waters draining into the westside of the Susitna River downstream from the Deshka River were opened to chinook salmon fishing. In 1986, portions of five road-accessible streams on the east side of the Susitna River opened to weekend-only fishing. These streams were Little Willow, Goose, Sunshine, Sheep and Birch creeks.

Expanded chinook salmon fishing opportunity continued in 1987 when Monday fishing was added to all former weekend-only fisheries that drain into the Susitna River from the east. Saturday through Monday fishing was also allowed on the Susitna River and all flowing waters within one-quarter mile of the Susitna River (excluding the Kashwitna River) between the Deshka and Talkeetna rivers. These "corridor" fisheries were open for 4 continuous "weekends" similar to the previously mentioned Saturday through Monday fisheries. Chinook salmon fishing was permitted for the first time on the Susitna River drainage upstream from the Susitna River's confluence with the Talkeetna River to Devils Canyon but excluding the Chulitna River drainage. Unbaited, single-hook, artificial lures were mandatory in this area. The season extended from January 1 through July 13. The season for all Susitna River and coastal fisheries that formerly closed on July 6 was extended to July 13 in 1987.

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In 1989, chinook salmon fishing was allowed within a one-quarter mile radius of the mouth of the Kashwitna River. That same year fishing was permitted daily at Willow Creek between January 1 and the third Monday in June and on Saturday through Monday for 2 consecutive weeks starting the fourth Saturday in June.

Bag and possession limits were 1 chinook salmon 20 inches or over in length in 1979. The following year bag and possession limits changed to 2 chinook salmon 20 inches or over in length but only 1 chinook salmon could be over 28 inches in length. In 1981 the bag limit was reduced to 1 chinook salmon 20 inches or more in length and in possession. This limit remained in effect through 1985. A 5 fish (20 inches or more in length) per year limit governed all Cook Inlet chinook salmon fisheries from 1979 through 1985. This limit applied collectively to Northern Cook Inlet fresh water, Cook Inlet salt water and the Kenai Peninsula.

In 1986, bag and possession limits for the western drainages of the Susitna River were changed to 2 chinook salmon, 16 inches or more in length daily and 4 in possession and remained so through 1992. Only 1 fish daily and 2 in possession could be over 28 inches. Similar limits also applied to the West Cook Inlet coastal fisheries. Bag and possession limits for eastern drainages of the Susitna River in 1986 were 1 chinook salmon, 16 inches or more in length, and 2 in possession. The seasonal limit was 5 chinook salmon 16 inches or more in length. Anglers were required to list their chinook salmon harvest on nontransferable harvest records from 1979 through 1988. The date and location of harvested chinook salmon were recorded. A \$5 permit stamp was mandatory for chinook salmon fishing from 1980 through 1982. The harvest record and yearly limit was eliminated for all NCI chinook salmon fisheries in 1989.

During the November 1992 BOF meeting several regulations were changed in the Susitna West-Cook Inlet Management Area to be in effect for the 1993 season. A seasonal limit of 5 chinook salmon was established for all waters of Cook Inlet. Individuals or companies engaged in freshwater sport fish guiding were prohibited from participating or engaging in sport fishing while clients were present or within his or her control or responsibility during the chinook salmon season except when guiding a client subject to the Americans with Disabilities Act.

In effect for the 1993 season in the West Cook Inlet area the chinook salmon fishing season was reduced in length to end on June 30. The bag and possession limits were reduced in areas open to the retention of chinook salmon 16 inches or more in length to 1 daily and 1 in possession.

Additionally, in the following areas of West Cook Inlet only unbaited, artificial lures could be used and chinook salmon 16 inches or more in length could not be possessed or retained; all chinook salmon caught had to be released immediately: (1) Chuitna River Drainage: upstream of a department marker located adjacent to the old cable crossing; (2) Theodore River Drainage: upstream of a department marker located approximately 1 mile upstream of the Beluga/Anchorage high voltage power lines; and (3) Lewis River Drainage: upstream of a department marker located approximately 1 river mile upstream of the main Beluga haul road bridge.

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Action during the November 1992 meeting also reduced the chinook salmon bag and possession limit in the Susitna River drainage including all flowing waters draining into the west side of the Susitna River downstream of and including the Deshka River. The bag and possession limits for chinook salmon over 16 inches were reduced to 1 daily and 2 in possession.

In addition to BOF action, legislative action during June of 1992 established provisions that prohibited resident or nonresident anglers from fishing in Alaska without a king salmon stamp beginning in 1993.

In anticipation of an inadequate return to the Deshka River, prior to the 1994 chinook season an emergency order was issued reducing the chinook salmon possession limit to 1 fish and eliminated the use of bait in the Deshka River May 1 through July 14. As the 1994 chinook season progressed it became apparent a weak return was occurring in the entire Susitna River drainage and particularly in the Deshka River. In response to this an emergency order was issued closing all waters of the Deshka River to sport fishing for chinook salmon and prohibiting the use of bait in all waters of the Susitna River drainage downstream of the Deshka River which flow into the Susitna River from the east and the Alexander Creek drainage, all waters of the Yentna River drainage, all waters of the Talkeetna River drainage, and all waters of the Chulitna River drainage, June 17 through July 13, 1994.

The BOF during its October 1994 work session choose to delegate to the department the authority to change regulations for the 1995 fishing season. These regulation changes were as follows:

1. The Deshka River and Prairie Creek are closed to fishing for chinook salmon.
2. Alexander Creek above the confluence of Trail Creek is closed to fishing for chinook salmon.
3. The bag and possession limits in the Susitna River and Little Susitna River drainages have been reduced to 1 chinook salmon over 16 inches in length.
4. The use of bait throughout the NCIMA is prohibited (excluding the Anchorage Management Unit).
5. Fishing in the NCIMA is allowed only between the hours of 6:00 a.m. and 11:00 p.m. May 15 through July 13. This time restriction will not apply to that portion of the Susitna River drainage currently opened to weekend-only fishing (e.g. between, but not including, the Deshka River and the Talkeetna River) and the Anchorage Management Unit.
6. The first opening of the Northern District commercial chinook salmon fishery will occur by emergency order. Additional opening of this fishery will be dependent upon inseason indications of run strength.

The only new regulation for the 1996 season was the closure of the Lewis River to king salmon fishing, including catch-and-release for king salmon.

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The Alaska Board of Fisheries convened in Anchorage, Alaska during November 11-17, 1996. A brief summary of regulatory changes affecting the Susitna-West Cook Inlet Area chinook salmon fisheries as adopted by the Board of Fisheries follows.

5 AAC 21.366. Northern District King Salmon Management Plan

- To fulfill changes to the Upper Cook Inlet King Salmon Management Plan, as adopted by the Board of Fisheries, the Department of Fish and Game shall manage the Northern District commercial king salmon fishery as follows:
 1. (3) The harvest shall not exceed 12,500 king salmon.
 2. (8) The season closes on June 24, unless closed earlier by emergency order.
 3. (9) The number of regular periods shall be determined by the department based on preseason expectations of king salmon run strength.
 4. (10) The area from 1 mile south of the Theodore River to the Susitna River is closed to fishing; provisions of this paragraph do not apply after December 31, 1998.
 5. (11) If at least 90% of the biological escapement goal for the Theodore River (BEG = 750) or Chuitna River (BEG = 1,400) is not met during the 1997 fishing season, the area from 1 mile south of the Chuitna River to the Susitna River will be closed to commercial fishing during the 1998 fishing season; the provisions of this paragraph do not apply after December 31, 1998.
 6. (12) In addition to (11) above, if at least 90% of the biological escapement goal for the Chuitna River has not been met during the 1997 fishing season, the area from 1 mile south of the Chuitna River to the Susitna River will be closed to sport fishing for king salmon during the 1998 fishing season; the provisions of this paragraph do not apply after December 31, 1998.

5 AAC 61.010. Fishing Seasons:

- The Alexander Creek drainage is open to the retention (harvest) of king salmon from January 1 through June 30 downstream from an ADF&G regulatory marker at Granite Creek.

5 AAC 61.020. Bag Limits, Possession Limits, and Size Limits:

- In all waters of Alexander Creek drainage between an ADF&G regulatory marker located at Granite Creek, upstream to an ADF&G regulatory marker located 400 yards upstream of Trail Creek, king salmon 16 inches or more in length may not be possessed or retained. All king salmon caught must be released immediately.

5 AAC 61.035. Methods and Means:

- Only unbaited, single-hook, artificial lures may be used from January 1 through June 30 in all waters of the Alexander Creek drainage between an ADF&G regulatory marker located at Granite Creek to an ADF&G regulatory marker located 400 yards upstream of Trail Creek.

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5 AAC 61.050. Waters Closed to Sport Fishing:

1. Peters Creek (Susitna River drainage) is closed to sport fishing for king salmon upstream from an ADF&G regulatory marker, located approximately 1 mile upstream from its confluence with the Kahiltna River.
2. The Theodore River is closed to sport fishing for king salmon. The provisions of this paragraph do not apply after December 31, 1998.

5 AAC 61.020. Bag Limits, Possession Limits, and Size Limits:

1. In all waters of the Susitna River drainage between the confluence of the Deshka River and the confluence of the Talkeetna River: after taking a king salmon 16 inches or more in length, a person may not fish for any species of fish in any water open to king salmon fishing during that same day.
2. In the Little Susitna River from its mouth to the Parks Highway bridge at Houston: after taking a king salmon 16 inches or more in length, a person may not fish for any species of fish in any water open to king salmon fishing during that same day.
3. In all waters of the Susitna-West Cook Inlet Management Area, excluding the Susitna River between its confluence with the Deshka River and its confluence with the Talkeetna River: after taking a king salmon 16 inches or more in length, a person may not fish for king salmon during that same day.

5 AAC 61.020. Bag Limits, Possession Limits, and Size Limits:

- The bag and possession limits of king salmon 16 inches or more in length taken from the Little Susitna River drainage are 1 fish per day and in possession.

During 1997 the Deshka River was open to king salmon fishing on June 21 through July 13. Fishing was limited to the lower 2 miles of river and all chinook salmon regulations applying to the Susitna River from its mouth to its confluence with the Deshka River were in effect for the Deshka River.

In 1998 the Deshka River was open to king salmon fishing from its confluence with the Susitna River upstream 5 miles to a Department marker. The seasonal bag limit for king salmon over 16 inches from the Deshka River was set at 2. In addition, all chinook salmon regulations applying to the Susitna River from its mouth to its confluence with the Deshka River were in effect for the Deshka River. Inseason EOs affecting chinook salmon fishing opened Willow Creek June 20-22 to correct an oversight in the regulations and added one Friday to chinook fishing in the Susitna River between the Deshka River and the Talkeetna River (excluding both).

The BOF made the following changes for the 1999 season. The Deshka River will be open to king salmon fishing from its mouth upstream to Chijuk Creek a distance of approximately 19 river miles from January 1 to July 13. Other area regulations apply such as 1 fish per day bag and possession limits, a 5 fish seasonal limit, and once an angler harvests his or her king salmon they

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must quit fishing for king salmon the remainder of the day. Additionally fishing is allowed only between the hours of 6:00 a.m. to 11:00 p.m., no bait is allowed and guides cannot fish while guiding clients.

The area open for retention of king salmon on Alexander Creek was extended from its mouth upstream to Trail Creek. This provides anglers with an additional 11 miles of stream from the 1997 and 1998 seasons in which they may harvest king salmon on Alexander Creek.

The Theodore River was opened to catch-and-release fishing for king salmon from January 1 through June 30, only single hook artificial lures will be allowed. Other West Cook Inlet Area regulations apply as follows: fishing is allowed only between the hours of 6:00 a.m. to 11:00 p.m., bait is prohibited, and guides cannot fish while guiding.

There will be increased fishing opportunities for the road-accessible Parks Highway streams (Eastside Susitna River tributaries) during the early part of June. The Parks Highway streams (Eastside Susitna River tributaries) will open to king salmon fishing from January 1 through the third Monday in June and for the next two consecutive 3-day weekends. This regulation identifying the fishing season is consistent with that on Willow Creek.

On the Little Susitna River, anglers will be allowed to use treble hooks year-round downstream of the Parks Highway Bridge. Existing bait restrictions were modified to allow the use of bait during the month of September.

The area open to king salmon fishing on the Kashwitna River was extended from its mouth upstream to the Parks Highway Bridge, a distance of 2 miles. The Kashwitna River, a Parks Highway stream, will be regulated under the new season regulation implemented for the Parks Highway streams.

In all waters of the Westside-Susitna River and West Cook Inlet Management Areas (excluding waters between the Deshka River and the Talkeetna River mouths), anglers will be allowed to continue to fish for king salmon (catch-and-release) once they have harvested their limit excluding Alexander Creek, Lake Creek, Deshka River, Fish Lake Creek and Clear Creek. In these streams you will be required to quit fishing for king salmon for the day once you have harvested your limit.

By EO Willow, Little Willow, Sheep and Montana creeks were open to king salmon fishing for an additional weekend, July 10 through July 12, 1999.

The 2000 season began with no regulation changes from 1999. When it was determined that the Deshka River was experiencing an exceptional return of chinook, an EO was issued that allowed the use of bait in the first 17 miles of the Deshka River and within a ¼-mile radius of the mouth of the Deshka River with the Susitna River, June 8 through July 13, 2000. Two additional EOs were issued in 2000. One opened Willow, Little Willow, Sheep and Montana creeks to king salmon fishing for an additional day, July 4, 2000, and the other opened East Fork Chulitna River, Willow, Little Willow, Sheep and Montana creeks to king salmon fishing for an additional 3-day weekend, July 8 through July 10, 2000.

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During the January 2001 BOF meeting a "jack" king salmon was defined as any king 20 inches or less in length statewide. In all fresh waters open to king salmon fishing the bag/possession limit for "jacks" is 10. These limits are in addition to any limits for kings over 20 inches in length and do not count against annual or seasonal limits. This new definition increased the length requirement for kings that must be recorded for the five fish seasonal limit from 16 inches to 20 inches.

E.O. No. 2-KS-2-15-01 extended king salmon season in the Susitna River drainage upstream from its confluence with the Deshka River to its confluence with the Talkeetna River including Susitna River tributaries Willow Creek to Trapper Creek and the East Fork of the Chulitna River (including the first ¼ mile of Honolulu Creek only). These waters which were scheduled to close on Monday July 2 were opened through Wednesday, July 4 at 12:00 midnight.

In June of 2001 it was determined that the Deshka River was experiencing an exceptional return of chinook. An EO was issued that allowed the use of bait in the first 17 miles of the Deshka River and within a ¼-mile radius of the mouth of the Deshka River with the Susitna River, June 12 through July 13. Three additional EOs were issued in 2001. One extended king salmon fishing on the Chuitna River downstream of the cable crossing July 1 through July 5. Another opened Willow Creek to king fishing June 29 at 12:01 a.m. adding one additional day of fishing. The last EO extended king salmon season in the Susitna River drainage upstream from its confluence with the Deshka River to its confluence with the Talkeetna River including Susitna River tributaries Willow Creek to Trapper Creek and the East Fork of the Chulitna River (including the first ¼ mile of Honolulu Creek only). These waters which were scheduled to close on Monday July 2 were opened through Wednesday, July 4 at 12:00 midnight.

A BOF meeting was held in February of 2002 resulting in the following king salmon regulations changes:

1. Allow catch-and-release fishing for kings in the East Fork of the Chulitna River January 1 through July 13. Only one single-hook, unbaited artificial lure may be used January 1 through July 13.
2. Increase possession limit to two kings for West Susitna River tributaries (excluding Alexander Creek).
3. In the Northern District King Salmon Management Plan: The commercial setnet fishery will open on the first Monday on or after May 25 and close June 24. The number of commercial periods will depend upon expected northern Cook Inlet king salmon run strengths and there shall be no more than three commercial openings targeting kings. The area from an ADF&G marker located 1 mile south of the Theodore River to the Susitna River is open to fishing in the second regular period only. If the Theodore, Lewis or Ivan rivers are closed to sport fishing, the area from an ADF&G regulatory marker located 1 mile south of the Theodore River to the Susitna River is closed to commercial king salmon fishing for the remainder of the directed king salmon fishery. If the Deshka River is closed to sport fishing, the commercial king salmon fishery throughout the Northern District is closed for the remainder of the directed king salmon fishery. If the Chuitna River is closed to sport fishing, the area from an ADF&G marker located 1 mile south of the Chuitna River to the

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Susitna River is closed to commercial king salmon fishing for the remainder of the directed king salmon fishery.

4. Allow a catch-and-release fishery in the entire Theodore and Lewis rivers. No bait, single hook only.

These regulations were not signed into law prior to the start of the 2002 season. Because of this delay the following EOs were issued to allow the new regulations to be in effect during the beginning of the fishing season:

1. Increased the possession limit to two king salmon in all Westside Susitna River tributaries except Alexander Creek.
2. Opened the entire Theodore and Lewis rivers to catch-and-release for king salmon through June 30. Single hook, no bait.
3. Allowed the use of bait in the first 17 miles of the Deshka River and within a ¼ mile radius of the mouth of the Deshka River with the Susitna River, June 8 through July 13, 2002.

All regulations became effective midway through the season. As in past years an EO was issued which extended king salmon season in Willow, Sheep and Montana creeks 3 days, July 5-7 from 6:00 a.m. to 11:00 p.m.

In 2003 there were no new regulations. As in past years an EO was issued which extended king salmon season in Willow, Sheep and Montana creeks 3 days, July 4-6 from 6:00 a.m. to 11:00 p.m. In mid June when an exceptional return was realized for Deshka River, an EO was issued to increase the bag and possession limit of king salmon greater than 20 inches in the Deshka River from one per day and two in possession to two per day and four in possession.

Appendix E2.-Coho salmon regulatory history for NCIMA waters, 1991-2003.

1991

1. Little Susitna River Coho Salmon Management Plan (5 AAC 61.060). Initiated in 1991 season. One coho salmon January 1 through August 5, three coho salmon August 6 through December 31, increase to 5 coho salmon below weir and at Nancy Lake Creek when 7,500 projected above Parks Highway, quit fishing when bag limit harvested below Burma Landing. Previously there was a 3 salmon daily bag limit, all 3 of which could be coho salmon.

Emergency Orders:

1. E.O. No. 2-SS-2-27-91 closed to fishing that portion of the Little Susitna River from the fish counting weir located at River Mile 32.5 downstream for a distance of 1,500 feet. Effective July 27 through September 14, 1991.
2. E.O. No. 2-RS-1-29-91 closed sockeye salmon fishing in all waters north of the latitude of Anchor Point. Effective 7:00 a.m. July 26 through December 31, 1991.
3. E.O. No. 2-RS-2-33-91 opened the Fish Creek personal use dip net fishery. Effective July 30 through August 9, 1991.
4. E.O. No. 2-RS-2-34-91 reopened the Little Susitna River drainage and all freshwater drainages of Knik Arm to fishing for sockeye salmon. Effective noon, July 29 through December 31, 1991.
5. E.O. No. 2-RS-2-36-91 rescinded E.O. No. 2-RS-1-29-91, thereby reopening recreational sockeye salmon fisheries within waters of the Kenai Peninsula and Susitna-West Cook Inlet regulatory areas and marine waters of Cook Inlet north of Anchor Point. Effective 7:00 a.m. August 2 through December 31, 1991.
6. E.O. No. 2-CS-2-38-91 closed the Eklutna Power Plant tailrace to sport fishing from the Old Glenn Highway downstream to department markers placed approximately 100 yards upstream of the confluence of the tailrace and the Knik River. Effective noon, August 6 through December 31, 1991.
7. E.O. No. 2-SS-2-42-91 increased bag and possession limits to 5 coho salmon at the Little Susitna River downstream from the department's salmon counting weir at River Mile 32.5. Effective noon, August 14 through December 31, 1991.

1992

1. Little Susitna River Coho Salmon Management Plan modified. In effect for 1993 season. Only unbaited artificial lures may be used in the Little Susitna River from July 15 through August 5. The bag and possession limits for coho salmon 16 inches or more in length during this time period were increased to 3 daily and in possession.
2. Aimed at rainbow trout. Only unbaited artificial lures may be used in all flowing waters of the Susitna-West Cook Inlet area September 1 through May 15. Initiated in 1993 season.

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3. Changes in the Cook Inlet Personal Use Salmon Dip Net Fishery Management Plan (5 AAC 77.540) pertaining to the Fish Creek dip net fishery. 1993 was the first year coho salmon were allowed in the harvest. Daily bag and possession limit 6 salmon.
4. BOF found that most of Cook Inlet was a nonsubsistence zone and repealed the Upper Cook Inlet Subsistence Salmon Management Plan (5 AAC 01.592) thus eliminating the subsistence fishery in Upper Cook Inlet for the 1993 season (eliminated the Knik set gillnet fishery). This plan was reinstated by court action for the 1994 season. The only area that remained open to subsistence fishing in the Upper Cook Inlet area during 1993 was the Tyonek subdistrict of the Northern District on the west side of Cook Inlet.

Emergency Orders:

1. E.O. No. 2-RS-2-21-92 opened the Fish Creek personal use dip net fishery. Dip net fishing was allowed for 3 consecutive days followed by a 1 day closure on a continuing basis. Effective 6:00 a.m. July 23 through August 6, 1992.
2. E.O. No. 2-SS-2-22-92 closed to fishing that portion of the Little Susitna River from the fish counting weir located at River Mile 33 downstream for a distance of 1,500 feet. Effective July 25 through September 14, 1992.
3. E.O. No. 2-RS-2-28-92 closed the Susitna River drainage to sockeye salmon fishing. Effective July 31 through December 31, 1992.
4. E.O. No. 2-SS-2-29-92 increased bag and possession limits to 5 coho salmon 16 inches or more in length downstream from the department's counting weir at River Mile 32.5. Effective August 15 through December 31, 1992.

1993

Emergency Orders:

1. E.O. No. 2-RS-2-23-93 opened the Fish Creek personal use fishery. The dip net fishery opened 9:00 a.m. July 24 and closed midnight August 6, with the fishery being closed July 26, July 30, and August 3, 1993.
2. E.O. No. 2-SS-2-25-93 closed to fishing that portion of the Little Susitna River from the fish counting weir located at River Mile 33 downstream for a distance of 1,500 feet. Effective July 23 through September 15, 1993.
3. E.O. No. 2-SS-2-32-93 increased the bag and possession limits to 5 coho salmon at the Little Susitna River downstream from the department's counting weir at River Mile 32.5. Effective August 11 through December 31, 1993.
4. E.O. No. 2-SS-2-33-93 closed to fishing that portion of Jim Creek from the fish counting weir located at River Mile 1 downstream for a distance of 500 feet. Effective August 12 through November 1, 1993.

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1994

Emergency Orders:

1. E.O. No. 2-RS-2-28-94 opened the Fish Creek personal use fishery. The dip net fishery opened 9:00 a.m. July 27 and closed midnight August 5, with the fishery being closed July 29 and August 2, 1994.
2. E.O. No 2-RS-2-33-94 supersedes E.O. 2-RS-2-28-94 extending the Fish Creek Personal Use Dip Net Fishery through midnight August 9. Effective August 7, 1994 through August 9, 1994.
3. E.O. No. 2-KS-2-05-94 closed to fishing that portion of the Little Susitna River from the fish counting weir located at River Mile 33 downstream for a distance of 1,500 feet. Effective May 25 through September 15, 1994.
4. E.O. No. 2-SS-2-32-94 increased the bag and possession limits to 5 coho salmon at the Little Susitna River downstream from the department's counting weir at River Mile 32.5. Effective August 6 through December 31, 1994.
5. E.O. No. 2-SS-2-29-94 closed that portion of Jim Creek to fishing from the fish counting weir located at River Mile 1 downstream for a distance of 1,000 feet. Effective July 26, 1994 through November 1, 1994.

1995

1. Upper Cook Inlet Subsistence Salmon Management Plan was repealed by the BOF in 1995. BOF took action to allow subsistence fishery as a personal use fishery. The Knik set gillnet fishery was executed as a personal use fishery in 1995.

Emergency Orders:

1. E.O. No. 2-KS-2-07-95 closed to fishing that portion of the Little Susitna River from the fish counting weir located at River Mile 33 downstream for a distance of 1,900 feet. Effective May 25 through September 15, 1995.
2. E.O. No. 2-RS-02-32-95 opened the Fish Creek personal use fishery. The dip net fishery opened 5:00 a.m. July 26 and closed midnight August 8, with the fishery being closed July 28 and August 1 and August 4, 1995.
3. E.O. No. 2-SS-02-40-95 increased the bag and possession limits to 5 coho salmon at the Little Susitna River downstream from the department's counting weir at River Mile 32.5. Effective August 9 through December 31, 1995.

1996

1. The Upper Cook Inlet Personal Use Salmon Fishery Management Plan (5 AAC 77.540) establishes time, area, methods and means for taking salmon for personal use. This plan first went into effect during the 1996 season. It provides for personal use dip net fisheries in the Kenai and Kasilof rivers and Fish Creek. Additionally, limited personal use gillnet fishing

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opportunity is provided near the terminus of the Kasilof River. No Knik set gillnet fishery was provided.

2. Changes were made to the Fish Creek Sockeye Management Plan (5 AAC 21.364) concerning the Fish Creek Personal Use Dipnet fishery. The dip net fishery will now run July 10 through July 31 with a bag limit of 25 salmon per head of household plus 10 salmon per each household member. A permit is required.
3. The Skwentna River Personal Use Salmon Fishery Management Plan (5 AAC 77.526) establishes a subsistence fish wheel fishery in the Yentna River downstream of its confluence with the Skwentna River. This fishery was implemented as a personal use fishery during the 1996 and 1997 seasons.
4. Little Susitna River Coho Salmon Management Plan was modified. The option to increase the bag and possession limits of coho salmon in specified areas of the Little Susitna River when the escapement goal of 7,500 nonhatchery fish upstream of the Parks Highway is projected, was repealed. The bag and possession limits of salmon other than king salmon in the Little Susitna River are 3 fish per day and in possession.
5. At the November 1996 meeting the BOF modified 5 AAC 61.035. Only unbaited, single-hook, artificial lures may be used in all flowing waters of the Alexander Creek drainage upstream of an ADF&G regulatory marker located 400 yards upstream of the confluence of Trail Creek.

1997

Emergency Orders:

1. E.O. No. 2-RS-2-25-97 closed Fish Creek dipnetting from 11:00 a.m. July 23 through 11:00 p.m. July 25, 1997.
2. E.O. No. 2-RS-2-28-97 closed Fish Creek dipnetting for the remainder of the 1997 season on July 26, 1997.
3. E.O. No. 2-SS-02-31-97 prohibited use of bait and reduced daily bag and possession limit of coho salmon to one in all waters of Cook Inlet on August 9, 1997. Areas not included were Eklutna Tailrace, Ship, Bird, and Campbell creeks.
4. E.O. No. 2-SS-2-34-97 closed Wasilla Creek downstream from the railroad bridge, including Rabbit Slough and Spring Creek, to sport fishing August 23 through October 31, 1997.

1998

1. The Upper Yentna River Subsistence Salmon Fishery (5 AAC 01.593) establishes a subsistence fish wheel fishery in the Yentna River downstream of its confluence with the Skwentna River. This fishery was implemented as a personal use fishery during the 1996 and 1997 seasons. State Supreme Court and BOF action changed it to a subsistence fishery beginning in 1998. This change did not affect coho salmon harvest.

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Emergency Orders:

1. E.O. No. 2-KS-2-14-98 closes the Deshka River to all fishing 1,200 feet downstream and 300 feet upstream of the fish counting weir.
2. E.O. No. 2-RS-2-15-98 closes Fish Creek to dipnetting effective July 25, 1998 through July 31, 1998.

1999

1. Recreational fishing time on Fish, Wasilla and Cottonwood creeks has been reduced. Fishing hours were restricted from 24-hour fishing days to 12-hour fishing days (6:00 a.m. to 6:00 p.m.) in these Saturday and Sunday only fisheries. Once an angler has harvested a bag limit of three salmon, he/she may no longer fish on this stream for the remainder of the day.
2. In all waters of West Cook Inlet South of the Susitna River (i.e. Chuitna, Lewis, Theodore & McArthur River) once an angler has harvested a bag limit of 3 coho salmon he/she may no longer fish on this stream for the remainder of the day. These same streams are closed to coho salmon fishing from October 1-December 31.
3. For the Little Susitna River existing bait restrictions were modified to allow the use of bait during the month of September.
4. Little Susitna River Coho Salmon Management Plan was modified. The escapement goal of 7,500 coho salmon was changed to an escapement range of 9,600-19,200 nonhatchery fish.

Emergency Orders:

1. E.O. No. 2-KS-2-05-99 closed the Deshka River to fishing from 1,000 yards downstream to 200 yards upstream of the fish counting weir.
2. E.O. No. 2-RS-2-15-99 closed Fish Creek to dipnetting on July 26, 1999.
3. E.O. No. 2-SS-2-20-99 reduced the bag limit to 1 coho salmon and no bait for Cottonwood, Wasilla and Fish creeks and the Little Susitna River, on August 19, 1999.

2000

During the BOF meeting in February 2000 the following recreational fishery restrictions were put in place to address coho salmon conservation concerns.

The coho bag and possession limits in the Knik Arm (excluding the stocked coho fishery in the Eklutna Tailrace) and the Susitna River were reduced to 2. The West Cook Inlet bag and possession limits north of the West Foreland were reduced to 2 daily and 4 in possession. South of the West Foreland they remained at 3 daily and 6 in possession.

Wasilla Creek, Jim Lake, Upper Jim Creek and McRoberts Creeks were closed to coho fishing.

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After taking a limit of coho from Fish and Cottonwood creeks a person may not fish that same day in Fish and Cottonwoods creeks in waters open to salmon fishing.

The sockeye return to Fish Creek was poor again this year and the dip net fishery was closed early by EO.

Emergency Orders: The two coho daily bag limit caused some confusion on the Little Susitna River so an EO was issued to clarify the new regulation.

1. E.O. No. 2-SS-2-17-00 stated after keeping 2 coho below RM 32.5 Little Susitna River, an angler must quit fishing in the Little Susitna River for the remainder of the day, July 28-December 31.
2. E.O. No. 2-RS-2-16-00 closed Fish Creek to dipnetting on July 26, 2000.

2001

There were no new regulations concerning coho for the 2001 season.

Emergency Orders: Only one EO was issued affecting coho salmon harvest.

1. E.O. No. 2-RS-2-17-01 closed Fish Creek to dipnetting on July 12 at 11:00 p.m.

2002

The BOF met in February 2002 and adopted new regulations affecting coho.

1. The Larson Creek drainage upstream of a marker ¼ mile upstream from its mouth is closed to sport fishing for all salmon year-round.
2. Nancy Lake Creek drainage upstream of a marker ¼ mile upstream from its mouth is closed to all salmon fishing including catch-and-release.
3. The Clearwater and Roscoe creek drainages are closed year-round to all fishing upstream from a marker ½ mile upstream of their confluences with the Chinitna River.
4. Open Fish Creek personal use fishery by EO when escapement goal is projected.
5. Open Wasilla Creek from its mouth to the Alaska Railroad bridge for salmon fishing (excluding king salmon). Saturday and Sunday only from 6:00 a.m.–6:00 p.m. only.
6. Eliminate use of bait on Little Susitna River July 14, upstream of the Little Susitna Public Use Facility.

Emergency Orders: Only one EO was issued affecting coho salmon harvest.

1. E.O. No. 2-SS-2-29-02 in Fish Creek increased coho bag limit to 3 per day and allowed 24-hour per day fishing on Saturdays and Sundays beginning August 17 at 12:01 a.m. through December 31.

2003

No new regulations adopted for 2003 and no EOs issued.

Appendix E3.-Rainbow trout regulatory history for NCIMA, 1977-2003.

1977

1. Rainbow trout daily bag and possession limits are 10.
2. Talachulitna River became Alaska's first catch-and-release rainbow trout fishery. Only unbaited, single-hook lures are allowed.

1982

1. Beginning in 1982 the daily bag and possession limits dropped to 5 rainbow trout of which only 2 could be 20 inches or more in length.

1983

1. The daily bag and possession limits were further reduced to allow 5 fish of which only 1 could be 20 inches or more in length.

1985

1. In Lake Creek (Yentna River) daily bag and possession limits were reduced to 2 and upstream of a marker 2 miles upstream of the mouth only artificial lures were allowed.

1986

During the fall of 1986, the Board of Fisheries officially adopted the Cook Inlet and Copper River Rainbow/Steelhead Trout Management Policy. The BOF used this policy from 1986-1996 to implement regulations for rainbow trout within the NCIMA.

1987

1. In the flowing waters of the Susitna River, Matanuska River and West Cook Inlet drainages only unbaited, artificial lures are allowed September 1 through December 31.
2. In the flowing waters of the Susitna River, Matanuska River and West Cook Inlet daily bag and possession limits were reduced to 2 per day only 1 over 20 inches.
3. Anglers required to record harvest of rainbow trout over 20 inches on harvest record card (back of license). Yearly limit of 2 rainbow trout over 20 inches.
4. Beginning in 1987 a major portion of the Eastside Susitna Management Unit was managed for trophy-size trout (trout over 20 inches). This fishery encompasses all drainages of the Susitna River from the junction of the Susitna and Talkeetna rivers upstream to Devils Canyon. Only 1 trout 20 inches or more in length is allowed daily with a 2 trout over 20 inches seasonal limit. Trout less than 20 inches must be released immediately. An unbaited, single-hook lure requirement complements this strategy.

1989

1. Beginning in 1989 catch-and-release was initiated in the Lake Creek drainage ¼ mile upstream of Bulchitna Lake, the Deshka River upstream of the confluence of Moose and Kroto creeks (The Forks), and the Fish Creek drainage located within the Talkeetna River drainage. Only unbaited, single-hook lures are allowed in these waters.

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2. Long (Kepler/Bradley), X and Wishbone Lakes designated catch-and-release only, unbaited, single hook, artificial lures only.

1991

1. In Lake Creek only unbaited, artificial lures may be used August 15 through December 31 from a department marker 100 yards upstream of the mouth to department marker $\frac{1}{4}$ mile upstream of Bulchitna Lake.
2. The Talachulitna River catch-and-release area was extended to within $\frac{3}{4}$ mile of the confluence of the Talachulitna River with the Skwentna River.

1993

1. In Big Lake the rainbow trout bag limit was reduced to 2 daily and in possession.
2. In the upper Cook Inlet area only 1 rainbow trout per day and 2 per season may be over 20 inches in length.
3. Long, X, and Wishbone lakes are closed to sport fishing from November 1 through April 30.
4. The North Fork of the Kashwitna River was established as a special management area for rainbow trout. Only single-hook, unbaited, artificial lures may be used in the North Fork of the Kashwitna River and rainbow trout may not be possessed or retained; all rainbow trout caught must be released immediately.
5. Only unbaited artificial lures may be used in all flowing waters of the Susitna-West Cook Inlet area (except when fishing for burbot when using legal gear for burbot) from September 1 through May 15, except in areas in which special regulations are in effect.
6. In the Lake Creek drainage, rainbow trout may not be possessed or retained in all flowing waters from August 15 through May 15, upstream from a department marker located approximately 100 yards upstream from its confluence with the Yentna River to a department marker located approximately one-quarter mile upstream from Bulchitna Lake. Only single-hook unbaited artificial lures may be used in this area during this time period. The Lake Creek drainage upstream from the Bulchitna Lake marker continues to be managed as a catch-and-release area for rainbow trout.

1995

1. Only unbaited artificial lures may be used in all flowing waters of the Susitna River drainage from September 1 through July 15.

1996

In November 1996 the BOF adopted the Criteria for Establishing Special Management for Trout, 5 ACC 75.013, to replace the Cook Inlet and Copper River Rainbow/Steelhead Trout Management Policy for use in instituting regulations. Bag and possession limits under this concept are 2 trout, of which only 1 may be 20 inches or more in length and also requires the use of unbaited artificial lures in all flowing waters from September 1 through May 15.

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1997

1. Rainbow trout may not be possessed or retained and only unbaited, single-hook, artificial lures may be used in all waters of the Prairie Creek drainage and within one-quarter mile of its confluence with the Talkeetna River.
2. Rainbow trout, Dolly Varden, whitefish, and Arctic grayling may not be possessed or retained in all waters of the Alexander Creek drainage and within one-quarter mile of its confluence with the Susitna River.
3. The retention of rainbow trout in the Willow Creek drainage and in all waters within one-half mile radius of its confluence with the Susitna River is prohibited. All rainbow trout caught in the Willow Creek drainage and within a one-half mile radius of its confluence with the Susitna River must be immediately released.
4. The retention of rainbow trout is prohibited in Montana Creek drainage and all waters within a one-half mile radius of its confluence with the Susitna River.
5. The bag and possession limits for rainbow trout in all flowing waters and nonstocked lakes of the Susitna West-Cook Inlet Area open to the retention of rainbow trout are 2 rainbow trout of which 1 may be over 20 inches in length and the bag and possession limits in stocked lakes are 5 rainbow trout of which 1 may be over 20 inches in length. Stocked lakes are: Barley, Bear Paw, Bench, Benka, Beverly, Big No Luck, Upper and Lower Bonnie, Bruce, B-J, Canoe, Carpenter, Christiansen, Coyote, Crystal, Dawn, Diamond, Echo, Farmer, Finger, Lalen, Little Lonely, Little No Luck, Loberg (Junction), Long (Glenn Highway MP 86), Loon, Lorraine, Lucille, Lynne, Marion, Matanuska, Meirs, Memory, Morvro, North Friend, Prator, Ravine, Reed, Rocky, Ruby, Seventeenmile, Seymour, Slipper, South Friend, South Rolly, Tigger, Twin Island, Vera, Victor, Visnaw, Walby, Weiner, West Sunshine, Willow, Wolf, and Y.
6. Only unbaited, single-hook, artificial lures may be used in all flowing waters of the Alexander Creek drainage upstream of an ADF&G regulatory marker located 400 yards upstream of the confluence of Trail Creek.
7. Unbaited, single-hook, artificial lures are required year-round upstream of the Parks Highway in Rabideux Creek, Montana Creek, Goose Creek, Caswell Creek, Kashwitna River, Grays Creek, Little Willow Creek, Sheep Creek, Willow Creek, and Little Susitna River, and upstream of a department regulatory marker in Birch Creek drainage, Sunshine Creek drainage, and upstream of the Petersville Road in Trapper Creek.
8. Only unbaited, single-hook, artificial lures may be used from September 1 through May 31 in all waters of the above described drainages (number 7 above) and in all waters within a one-half mile radius of their confluence with the Susitna River or the mouth of the Little Susitna River.

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9. Unbaited, single-hook, artificial lures are required year-round in the Willow Creek drainage upstream of a department marker located one-quarter mile upstream from its confluence with the Susitna River and in all waters of the Willow Creek drainage and within a one-half mile radius of its confluence with the Susitna River from September 1 through May 31.
10. Only unbaited, single-hook, artificial lures may be used year-round in Montana Creek upstream of the Parks Highway. Only unbaited, single-hook, artificial lures may be used in Montana Creek downstream of the Parks Highway and in all waters within a one-half mile radius of its confluence with the Susitna River from September 1 through May 31.

1999

1. Willow Creek went from no retention of rainbow trout to allowing the retention of 1 rainbow trout under 16 inches in length per day and in possession upstream of the Parks Highway bridge. The single-hook, unbaited, artificial lure provision for this area remains in effect. Downstream of the Parks Highway bridge rainbow trout may still not be possessed or retained.
2. Anglers will be allowed to retain rainbow trout and use bait when fishing on the Willow Creek drainage lakes. The bag and possession limits in Shirley, Long, and Rainbow lakes are 2 per day and 2 in possession with only 1 over 20 inches in length. The bag and possession limits in Willow and Crystal lakes, which are stocked annually, are 5 per day and 5 in possession with only 1 over 20 inches in length. The seasonal limit of 2 rainbow trout greater than 20 inches applies to these and all other Cook Inlet waters.
3. Anglers will not be allowed to harvest rainbow trout from Canyon Creek (Skwentna River drainage). Additionally, only single-hook, unbaited, artificial lures may be used in Canyon Creek year-round.
4. Anglers will not be allowed to retain rainbow trout in flowing waters of West Cook Inlet and the Susitna River drainage from April 15 to June 14. This regulation applies to all flowing waters in these areas, including Willow Creek. This regulation provides for catch-and-release fishing for rainbow trout during this time period.
5. In Big Lake (Houston area) only unbaited, single hook, artificial lures may be used from November 1 through April 30.
6. On the Little Susitna River, anglers will be allowed to use treble hooks year-round downstream of the Parks Highway Bridge. Existing bait restrictions were modified to allow the use of bait during the month of September. Aimed at salmon with small effect on rainbow trout fishing.

In **2000** and **2001** no changes were made affecting rainbow trout fisheries.

2002

The following regulations affecting rainbow trout were adopted by the BOF during the February 2002 meeting:

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1. Allow beads fixed on line within 2 inches of fly, lure, or hook.
2. Clarify the single-hook regulation to mean one single hook.
3. In the East Fork of Chulitna, Theodore and Lewis rivers only one single-hook, unbaited artificial lure may be used January 1 through July 13. This regulation was made in conjunction with allowing a hook-and-release fishery for king salmon.

At this time the majority of Cook Inlet rainbow trout fisheries are managed under a seasonal limit of 2 rainbow trout over 20 inches. To assure compliance with this regulation, anglers must, immediately upon harvesting a trout over 20 inches, record that harvest on the back of their license or on a harvest record.

2003

No new regulation adopted for 2003 and no EOs issued.

APPENDIX F

Appendix Fl.-Board of Fisheries NCIMA regulatory changes made from November 1992 through 2003.

1993 Season

King Salmon Entire Area

A seasonal limit of 5 king salmon was established for all waters of Cook Inlet. Anglers harvesting a king salmon must immediately enter in ink on the back of their sport fishing license, in the appropriate location, the waters fished, species harvested, and date the fish was harvested. Anglers without an annual sport fishing license (anglers younger than 16 years of age and Alaska residents at least 60 years of age) must obtain a king salmon harvest record card prior to king salmon fishing. On harvesting a king salmon they must mark the harvest card accordingly.

The Board also adopted as regulation a proposal which stated that an individual or company engaged in freshwater sport fish guiding may not participate or engage in sport fishing while clients are present or within his or her control or responsibility during the king salmon season, except when guiding a client subject to the Americans with Disabilities Act.

In addition to BOF action, during the first legislative session in June of 1992, legislators passed House Bill 596. This bill included provisions that prohibited resident or nonresident anglers from fishing for king salmon in Alaskan waters unless they have purchased the current year's king salmon tag and have it in possession. King salmon tags are valid from January 1 through December 31. Anglers must stick the tag on the back of their sport fishing license and validate it by signing their name across the tag. Anglers can purchase king salmon tags at the same time they buy their 1993 sport fishing license from their local vendor. There are five groups of resident anglers who are not required to purchase a king salmon tag: (1) blind anglers who qualify for a 25-cent license; (2) anglers under the age of 16; (3) anglers 60 years of age or older who have been a resident of the state for at least 1 year; (4) disabled veterans who are eligible for a free sport fishing license; and (5) anglers who qualify for a \$5 sport fishing license. All nonresident anglers are required to purchase a tag if they are fishing for king salmon in Alaska.

King Salmon - West Cook Inlet Area

The king salmon fishing season was reduced in length to end on June 30. The bag and possession limits were reduced in areas open to the retention of king salmon 16 inches or more in length to 1 daily and 1 in possession.

In the following areas only unbaited, artificial lures may be used, and king salmon 16 inches or more in length may not be possessed or retained; all king salmon caught must be released immediately:

1. Chuitna River Drainage: upstream of a department marker located adjacent to the old cable crossing;
2. Theodore River Drainage: upstream of a department marker located approximately 1 mile upstream of the Beluga/Anchorage high voltage power lines; and
3. Lewis River Drainage: upstream of a department marker located approximately 1 river mile upstream of the main Beluga haul road bridge.

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King Salmon - Susitna River Drainage

(including all flowing waters draining into the west side of
the Susitna River downstream of and including the Deshka River)

The bag and possession limit for king salmon over 16 inches was reduced to 1 daily and 2 in possession.

Coho Salmon - Little Susitna River

The management plan for the Little Susitna River was modified. Only unbaited artificial lures may be used in the Little Susitna River from July 15 through August 5. The bag and possession limits for coho salmon 16 inches or more in length during this time period were increased to 3 daily and in possession.

Rainbow Trout

In Big Lake the rainbow trout bag limit was reduced to 2 daily and in possession. In the upper Cook Inlet area only 1 rainbow trout per day and 2 per season may be over 20 inches in length.

Long, X, and Wishbone lakes are closed to sport fishing from November 1 through April 30.

The North Fork of the Kashwitna River was established as a special management area for rainbow trout. Only single-hook, unbaited, artificial lures may be used in the North Fork of the Kashwitna River and rainbow trout may not be possessed or retained; all rainbow trout caught must be released immediately.

Only unbaited artificial lures may be used in all flowing waters of the Susitna-West Cook Inlet area (except when fishing for burbot when using legal gear for burbot as described under burbot in the section) from September 1 through May 15, except in areas in which special regulations are in effect. Areas with special regulations in effect generally require the use of unbaited artificial lures year-round and further stipulate that rainbow trout may not be possessed or retained.

In the Lake Creek drainage, rainbow trout may not be possessed or retained in all flowing waters from August 15 through May 15, upstream from a department marker located approximately 100 yards upstream from its confluence with the Yentna River to a department marker located approximately one-quarter mile upstream from Bulchitna Lake. Only single-hook unbaited artificial lures may be used in this area during this time period. The Lake Creek drainage upstream from the Bulchitna Lake marker continues to be managed as a catch-and-release area for rainbow trout.

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Burbot

In the Susitna-West Cook Inlet area set lines are prohibited. Burbot may be taken with more than one line and hook if: (1) the total number of aggregate hooks does not exceed the daily bag limit for waters being fished; (2) the hooks are single hooks with a gap between point and shank larger than three-quarters of an inch; (3) each hook is set to sit on the bottom of the lake or stream; and (4) the burbot gear is closely attended.

The daily bag and possession limits for burbot are 5 daily and in possession in all waters of Susitna-West Cook Inlet Area.

Nancy Lake is closed to the harvest of burbot.

Lake Trout

The bag and possession limits for lake trout are 2 daily and in possession in all waters of Susitna-West Cook Inlet.

Three Mile Creek

Three Mile Creek in the West Cook Inlet area: that portion of Three Mile Creek from the road crossing upstream to Three Mile Lake and including that portion of Three Mile lake within a 300-foot radius of the outlet is closed to all fishing.

Fish Creek Personal Use

Changes in the Cook Inlet Personal Use Salmon Dip Net Fishery Management Plan pertaining to the Fish Creek dip net fishery are as follows:

1. The fishery will be opened by emergency order after July 23 on Saturdays, Sundays, and Wednesdays to the taking of sockeye and coho salmon provided the spawning escapement of sockeye salmon into Big Lake drainage is projected to exceed 50,000 fish.
2. Additional fishing time can be established by emergency order provided that no more than 3 consecutive days of fishing is allowed without a minimum of 1 day of closure if escapement into Fish Creek warrants such action.
3. The area to be open to harvesting salmon by dip net includes waters upstream from a department marker located at the mouth of Fish Creek to a department marker located approximately one-quarter mile upstream of the Knik-Goose Bay Road.
4. The daily bag and possession limit is 6 salmon not in addition to the daily sport fish bag and possession limit.
5. The fishery shall close the second Friday in August, or earlier by emergency order if the harvest of coho salmon becomes excessive in department opinion.

Subsistence

In December of 1992 the BOF found that most of Cook Inlet was a nonsubsistence zone and repealed the Upper Cook Inlet Subsistence Management Plan thus eliminating the subsistence fishery in Upper Cook Inlet. The only area that remained open to subsistence fishing in the Upper Cook Inlet area was the Tyonek subdistrict of the Northern District on the west side of Cook Inlet. A court ruling in November of 1993 which found this action by the BOF to be unconstitutional again allowed a subsistence fishery in Upper Cook Inlet for the 1994 season.

1995 Season

During their October 1994 meeting in Fairbanks the BOF delegated authority to restrict chinook salmon harvests in Northern Cook Inlet to the commissioner of the ADF&G to address stock conservation concerns. The following regulations will be in effect for the 1995 chinook salmon season:

King Salmon-Entire Area

1. The Deshka River and Prairie Creek are closed to fishing for chinook salmon.
2. Alexander Creek above the confluence of Trail Creek is closed to fishing for chinook salmon.
3. The bag and possession limits in the Susitna River drainage have been reduced to 1 chinook salmon over 16 inches in length.
4. The use of bait throughout the NCIMA is prohibited.
5. Fishing in the NCIMA is allowed only between the hours of 6:00 a.m. and 11:00 p.m. May 15 through July 13. This time restriction will not apply to that portion of the Susitna River drainage currently opened to weekend-only fishing (e.g. between, but not including, the Deshka River and the Talkeetna River).
6. By emergency order only the first opening of the Northern District commercial chinook salmon fishery will occur. Additional opening of this fishery will be dependent upon inseason indications of run strength.

1996 Season

The Alaska Board of Fisheries convened in Anchorage, Alaska during March 1996. A brief summary of regulatory changes affecting the Susitna-West Cook Inlet Area as adopted by the Board of Fisheries follows.

1. The Lewis River is closed to king salmon fishing, including catch-and-release for king salmon.
2. Changes were made to the Fish Creek Sockeye Management Plan concerning the Fish Creek Personal Use Dip Net fishery. The dip net fishery will now run July 10 through July 30 with a bag limit of 25 salmon per head of household plus 10 salmon per each household member. A permit is required.

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3. The Skwentna River Personal Use Management Plan was established. Salmon, other than chinook salmon, may be taken as follows:
 - a. A permit is required which shall be returned to ADF&G with the harvest recorded.
 - b. In the mainstem of the Yentna River from its confluence with Martin Creek upstream to its confluence with the Skwentna River from July 15 through July 31 from 4:00 a.m. through 8:00 p.m. Monday, Wednesday and Friday.
 - c. Only with a fish wheel as follows: (a) each fish wheel must be equipped with a livebox; the livebox must be constructed so that it contains no less than 45 cubic feet of water volume while it is in operation; (b) the permit holder shall attach a wood or metal plate that is at least 12 inches high by 12 inches wide, bearing the permit holder's name and address in letters and numerals at least one inch high, so that the name and address are plainly visible; (c) the permit holder shall be present to attend the fish wheel at all times while the fish wheel is in operation, and chinook salmon and rainbow trout must be returned alive to the water; (d) a live box is a submerged container that is attached to the fish wheel that will keep fish caught by the fish wheel alive.
 - d. Only one permit may be issued to each household per year and the annual limit for the fishery is 25 salmon for the head of household and 10 salmon for each dependent of the permit holder.
 - e. The commissioner shall close the personal use fishery, by emergency order, as necessary to ensure that no more than 2,500 salmon are taken during the entire season under this section.
 - f. The provisions of this plan do not apply after December 31, 1999.

1997 Season

The Alaska Board of Fisheries convened in Anchorage, Alaska during November 1996. A brief summary of regulatory changes affecting the Susitna-West Cook Inlet Area as adopted by the Board of Fisheries follows.

King Salmon

5 AAC 21.366. Northern District King Salmon Management Plan

To fulfill changes to the Upper Cook Inlet King Salmon Management Plan, as adopted by the Board of Fisheries, the Department of Fish and Game shall manage the Northern District commercial king salmon fishery as follows:

1. The harvest shall not exceed 12,500 king salmon.
2. The season closes on June 24, unless closed earlier by emergency order.
3. The number of regular periods shall be determined by the department based on preseason expectations of king salmon run strength.

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4. The area from 1 mile south of the Theodore River to the Susitna River is closed to fishing; provisions of this paragraph do not apply after December 31, 1998.
5. If at least 90% of the biological escapement goal for the Theodore River (BEG = 750) or Chuitna River (BEG = 1,400) is not met during the 1997 fishing season, the area from 1 mile south of the Chuitna River to the Susitna River will be closed to commercial fishing during the 1998 fishing season; the provisions of this paragraph do not apply after December 31, 1998.
6. In addition to above, if at least 90% of the biological escapement goal for the Chuitna River has not been met during the 1997 season, the Chuitna River will be closed to sport fishing for king salmon during the 1998 fishing season; the provisions of this paragraph do not apply after December 31, 1998.

5 AAC 61.010. Fishing Seasons:

1. The Alexander Creek drainage is open to the retention (harvest) of king salmon from January 1 through June 30 downstream from an ADF&G regulatory marker at Granite Creek.

5 AAC 61.020. Bag Limits, Possession Limits, and Size Limits:

1. In all waters of Alexander Creek drainage between an ADF&G regulatory marker located at Granite Creek, upstream to an ADF&G regulatory marker located 400 yards upstream of Trail Creek, king salmon 16 inches or more in length may not be possessed or retained. All king salmon caught must be released immediately.
2. In all waters of the Susitna River drainage between the confluence of the Deshka River and the confluence of the Talkeetna River: after taking a king salmon 16 inches or more in length, a person may not fish for any species of fish in any water open to king salmon fishing during that same day.
3. In the Little Susitna River from its mouth to the Parks Highway bridge at Houston: after taking a king salmon 16 inches or more in length, a person may not fish for any species of fish in any water open to king salmon fishing during that same day.
4. In all waters of the Susitna-West Cook Inlet Management Area, excluding the Susitna River between its confluence with the Deshka River and its confluence with the Talkeetna River: after taking a king salmon 16 inches or more in length, a person may not fish for king salmon during that same day.
5. The bag and possession limits of king salmon 16 inches or more in length taken from the Little Susitna River drainage are 1 fish per day and 1 in possession.

5 AAC 61.035. Methods and Means:

1. Only unbaited, single-hook, artificial lures may be used from January 1 through June 30 in all waters of the Alexander Creek drainage between an ADF&G regulatory marker located at Granite Creek to an ADF&G regulatory marker located 400 yards upstream of Trail Creek.

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5 AAC 61.050. Waters Closed to Sport Fishing:

1. Peters Creek (Susitna River drainage) is closed to sport fishing for king salmon upstream from an ADF&G regulatory marker, located approximately 1 mile upstream from its confluence with the Kahiltna River.
2. The Theodore River is closed to sport fishing for king salmon.

Rainbow Trout (Resident Species)

5 AAC 61.020. Bag Limits, Possession Limits, and Size Limits:

1. Rainbow trout may not be possessed or retained in all waters of the Prairie Creek drainage and within one-quarter mile of its confluence with the Talkeetna River.
2. In Prairie Creek the bag and possession limits for Arctic grayling are 2 fish.
3. Rainbow trout, Dolly Varden, whitefish, and Arctic grayling may not be possessed or retained in all waters of the Alexander Creek drainage and within one-quarter mile of its confluence with the Susitna River. Northern pike may be possessed and retained.

5 AAC 61.035: Methods and Means:

1. Only unbaited, single-hook, artificial lures may be used in the Prairie Creek drainage and within one-quarter mile of its confluence with the Talkeetna River.
2. Only unbaited, single-hook, artificial lures may be used in all flowing waters of the Alexander Creek drainage upstream of an ADF&G regulatory marker located 400 yards upstream of the confluence of Trail Creek.
3. Unbaited, single-hook, artificial lures are required year-round upstream of the Parks Highway in Rabideux Creek, Montana Creek, Goose Creek, Caswell Creek, Kashwitna River, Grays Creek, Little Willow Creek, Sheep Creek, Willow Creek, and Little Susitna River, and upstream of a department regulatory marker in Birch Creek drainage, Sunshine Creek drainage, and upstream of the Petersville Road in Trapper Creek.
4. Only unbaited, single-hook, artificial lures may be used from September 1 through May 31 in all waters of the above described drainages and in all waters within a one-half mile radius of their confluence with the Susitna River or the mouth of the Little Susitna River.
5. Unbaited, single-hook, artificial lures are required year-round in the Willow Creek drainage upstream of a department marker located one-quarter mile upstream from its confluence with the Susitna River and in all waters of the Willow Creek drainage and within a one-half mile radius of its confluence with the Susitna River from September 1 through May 31.
6. Only unbaited, single-hook, artificial lures may be used year-round in Montana Creek upstream of the Parks Highway. Only unbaited, single-hook, artificial lures may be used in Montana Creek downstream of the Parks Highway and in all waters within a one-half mile radius of its confluence with the Susitna River from September 1 through May 31.

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5 AAC 61.050. Waters Closed to Sport Fishing:

1. Fish Lake Creek drainage upstream of the first lake is closed to salmon fishing from July 14 through December 31.
2. All waters of Rabideux Creek, Trapper Creek, Grays Creek, and the Kashwitna River within a one-quarter mile radius of their confluence with the Susitna River are closed to sport fishing from June 1 through July 13, except during king salmon season as authorized by 5 AAC 61.010(f)(2). King salmon season commences the second Saturday through Monday in June and continues for three additional consecutive 3-day weekends thereafter.

5 AAC 61.020. Bag Limits, Possession Limits, and Size Limits:

1. The retention of rainbow trout in the Willow Creek drainage and in all waters within one-half mile radius of its confluence with the Susitna River is prohibited. All rainbow trout caught in the Willow Creek drainage and within a one-half mile radius of its confluence with the Susitna River must be immediately released.
2. The retention of rainbow trout is prohibited in Montana Creek drainage and all waters within a one-half mile radius of its confluence with the Susitna River.
3. The bag and possession limits for rainbow trout in all flowing waters and nonstocked lakes of the Susitna-West Cook Inlet Area open to the retention of rainbow trout are 2 rainbow trout of which 1 may be over 20 inches in length and the bag and possession limits in stocked lakes are 5 rainbow trout of which 1 may be over 20 inches in length. Stocked lakes are: Barley, Bear Paw, Bench, Benka, Beverly, Big No Luck, Upper and Lower Bonnie, Bruce, B-J, Canoe, Carpenter, Christiansen, Coyote, Crystal, Dawn, Diamond, Echo, Farmer, Finger, Lalen, Little Lonely, Little No Luck, Loberg (Junction), Long (Glenn Highway MP 86), Loon, Lorraine, Lucille, Lynne, Marion, Matanuska, Meirs, Memory, Morvro, North Friend, Prator, Ravine, Reed, Rocky, Ruby, Seventeenmile, Seymour, Slipper, South Friend, South Rolly, Tigger, Twin Island, Vera, Victor, Visnaw, Walby, Weiner, West Sunshine, Willow, Wolf, and Y.

Northern Pike

5 AAC 61.035: Methods and Means:

1. Sport fishing for northern pike using five (5) lines is allowed in specified lakes of the Susitna-West Cook Inlet Area provided: hooks are single hooks with a gap between the point and shank no smaller than three-quarters inch, the lines are closely attended, and all species of fish other than northern pike are immediately released. Specified lakes include: Alexander Lake, Sucker Lake, Trapper Lake, Flathorn Lake, Whiskey Lake, Hewitt Lake, Donkey Lake, Three Mile Lake (Beluga area), Neil Lake, Kroto Lake, and lakes of the Nancy Lake Recreation Area excluding Nancy and Big No Luck Lake.

5 AAC 61.020. Bag Limits, Possession Limits, and Size Limits:

1. The 10 fish bag and possession limits on northern pike in the Susitna-West Cook Inlet Area were repealed. There are no bag, possession or size limits on northern pike in the Susitna-West Cook Inlet Area.

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Burbot

5 AAC 61.035: Methods and Means:

1. In flowing waters of the Susitna River and Yentna River the requirement that burbot lines specified in 5 AAC 61.035 (h)(1),(2), and (3) be closely attended is repealed. The 24-hour requirement (each line must be physically inspected at least once during each 24-hour period) notwithstanding, burbot lines in the specified waters are not required to be closely attended.

Coho salmon

5 AAC 61.060: Little Susitna River Management Plan.

1. The option to increase the bag and possession limits of coho salmon in specified areas of the Little Susitna River when the escapement goal of 7,500 nonhatchery fish upstream of the Parks Highway is projected, was repealed. The bag and possession limits of salmon other than king salmon in the Little Susitna River are 3 fish per day and in possession.

Miscellaneous

5 AAC 61: Reformat the Susitna-West Cook Inlet Area Codified Regulations.

1. The format of the Susitna-West Cook Inlet codified regulation summary will be changed to agree with the format of other management areas.

October 1997 BOF meeting

A petition to open the Deshka River to king salmon fishing was presented to the Board by the public. The Board delegated authority to the Commissioner of the Department of Fish and Game to open the Deshka River to king salmon fishing in 1998 with regulation guidelines. The first 5 miles of river were opened and a seasonal bag limit was set at 2 fish. Additionally, those regulations applying to the Susitna River from its mouth to its confluence with the Deshka River were applied to the Deshka River.

October 1998 BOF meeting

The Alaska BOF convened in Wasilla, Alaska during October 1998. A brief summary of regulatory changes affecting the Susitna-West Cook Inlet Area as adopted by the BOF follows.

Resident Finfish

1. Action resulted in a change to the Big Lake Arctic char bag and possession limits and established a minimum size limit. The bag and possession limits changed in Big Lake from 2 per day 2 in possession to 1 per day 1 in possession with a minimum length requirement of 20 inches. Also, a special provision was established that requires the use of unbaited, single-hook, artificial lures from November 1 through April 30.
2. Action resulted in allowing the retention of 1 rainbow trout under 16 inches in length per day and in possession upstream of the Parks Highway bridge on Willow Creek. Downstream of the Parks Highway bridge rainbow trout may not be possessed or retained.

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3. Action resulted in allowing the use of bait and provides for the retention of rainbow trout in the Willow Creek drainage lakes. The bag and possession limits in Shirley, Long, and Rainbow lakes are 2 per day and 2 in possession with only 1 over 20 inches in length. The bag and possession limits in Willow and Crystal lakes is 5 per day and 5 in possession with only 1 over 20 inches in length.
4. Action resulted in prohibiting the retention of rainbow trout in Canyon Creek and established special provisions allowing only the use of single-hook, unbaited, artificial lures in Canyon Creek.
5. Action resulted in prohibiting the retention of rainbow trout in flowing waters of West Cook Inlet and the Susitna River drainage from April 15 to June 14. This regulation applies to all flowing waters in these areas including Willow Creek.
6. Established a slot limit for northern pike in Alexander and Trapper lakes. No bag and possession limits are in effect for pike less than 22 inches in length. Northern pike between 22 inches and 30 inches in length may not be retained. The bag and possession limits for pike 30 inches or greater in length are 1 per day and 1 in possession. Additionally, the action taken for Alexander and Trapper lakes reduced the number of lines allowed when fishing through the ice for northern pike from 5 lines to 2 lines, and prohibited the use of spears and bow and arrows for taking of northern pike.
7. Action resulted in allowing the use of bow and arrow for taking northern pike in NCI waters.
8. Action resulted in eliminating the ¾-inch single-hook size restriction when fishing through the ice on select northern Cook Inlet lakes where 5 lines are allowed.
9. Action resulted in establishing a Dolly Varden size restriction. The regulation now allows for the retention of only 1 Dolly Varden greater than 12 inches in length to be retained per day. The bag limit remains 5 fish per day, with 5 in possession for all NCI and Anchorage area flowing waters.

February 1999 BOF Meeting

1. Proposal 261. The Deshka River will be open to king salmon fishing from its mouth upstream to Chijuk Creek a distance of approximately 19 river miles from January 1 to July 13. Other area regulations apply such as 1 fish per day bag and possession limits, a 5 fish seasonal limit, and once an angler harvests his or her king salmon they must quit fishing for king salmon the remainder of the day. Additionally fishing is allowed only between the hours of 6:00 a.m. to 11:00 p.m., no bait is allowed and guides cannot fish while guiding clients.
2. Proposal 273. The area open for retention of king salmon on Alexander Creek was extended from its mouth upstream to Trail Creek. This provides anglers with an additional 11 miles of stream from the 1997 and 1998 seasons in which they may harvest king salmon on Alexander Creek.

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3. Proposal 263. The Theodore River was opened to catch-and-release fishing for king salmon from January 1 through June 30, only single-hook artificial lures will be allowed. Other West Cook Inlet Area Regulations apply as follows: fishing is allowed only between the hours of 6:00 a.m. to 11:00 p.m., bait is prohibited, and guides cannot fish while guiding.
4. Proposal 265. There will be increased fishing opportunities for the road-accessible Parks Highway streams (Eastside Susitna River tributaries) during the early part of June. The Parks Highway streams (Eastside Susitna River tributaries) will open to king salmon fishing from January 1 through the third Monday in June and for the next two consecutive 3-day weekends. This regulation identifying the fishing season is consistent with that on Willow Creek.
5. Proposal 274. On the Little Susitna River, anglers will be allowed to use treble hooks year-round downstream of the Parks Highway Bridge. Existing bait restrictions were modified to allow the use of bait during the month of September.
6. Proposal 268. The area open to king salmon fishing on the Kashwitna River was extended from its mouth upstream to the Parks Highway Bridge, a distance of 2 miles. The Kashwitna River, a Parks Highway stream, will be regulated under the new season regulation implemented for the Parks Highway streams.
7. Proposal 269. In all waters of the Westside Susitna River and West Cook Inlet Management Areas (excluding waters between the Deshka River and the Talkeetna River mouths), anglers will be allowed to continue to fish for king salmon (catch-and-release) once they have harvested their limit excluding Alexander Creek, Lake Creek, Deshka River, Fish Lake Creek and Clear Creek. In these streams an angler will be required to quit fishing for king salmon for the day once they have harvested their limit.
8. Proposal 193. Recreational fishing time on Fish, Wasilla and Cottonwood creeks has been reduced. Fishing hours were restricted from 24-hour fishing days to 12-hour fishing days (6:00 a.m. to 6:00 p.m.) in these Saturday and Sunday-only fisheries. Once an angler has harvested a bag limit of 3 coho salmon they may no longer fish on these streams for the remainder of the day.
9. Proposal 260. In all waters of West Cook Inlet south of the Susitna River (i.e. Chuitna, Lewis, Theodore & McArthur rivers) once an angler has harvested a bag limit of 3 coho salmon they may no longer fish on these streams for the remainder of the day. These same streams are closed to coho salmon fishing commencing October 1-December 31.

February 2000 BOF Meeting

The Board developed a Cook Inlet Coho Salmon Conservation Management Plan which addressed conservation concerns by putting more coho on the spawning grounds. This plan reduced the harvest potential in both the commercial and recreational fisheries. The following are regulation changes affecting fisheries that occur in the NCIMA.

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1. The coho bag and possession limits in Knik Arm, including the Little Susitna River and excluding the Eklutna Tailrace, were reduced from 3 to 2 fish.
2. Wasilla, McRoberts, Upper Jim creeks and Jim Lake were closed year-round to salmon fishing.
3. After taking a bag limit of salmon from Fish and Cottonwood creeks a person may not fish on Fish and Cottonwood creeks in waters open to salmon fishing on the same day.
4. Eastside Susitna River and the Susitna River upstream of its confluence with the Talkeetna River, including the Talkeetna River, the daily coho bag and possession limits were reduced from 3 to 2 fish.
5. Westside Susitna River and West Cook Inlet north of the West Foreland the daily coho bag limits were reduced from 3 to 2 fish and the daily possession limit was reduced from 6 to 4. Below the West Foreland the bag and possession limits remained at 3 and 6 fish.
6. Cook Inlet salt water: in all waters west of the longitude of Gore Point and north of the latitude of Cape Douglas the daily coho salmon bag and possession limits were reduced from 6 to 3 fish (except stocked coho fisheries in Seward and Homer Spit Lagoon).

January 2001 BOF Meeting

Defined "jack" king salmon as any king 20 inches or less in length statewide. In all fresh waters open to king salmon fishing the bag/possession limits for "jacks" are 10. These limits are in addition to any limits for kings over 20 inches in length. These jacks do not count against annual or seasonal limits.

February 2002 BOF Meeting

The following regulations were adopted during the February 2002 meeting:

1. Allow beads fixed on line within 2 inches of fly, lure, or hook.
2. Clarify the single-hook regulation to mean one single hook.
3. The use of five lines while ice fishing for pike apply to seven additional lakes in Northern Cook Inlet: Trapper Lake, Big No Luck Lake, Figure Eight Lake, Cabin Lake, Lower Vern Lake, Upper Vern Lake and Lockwood Lake. On Trapper Lake, there is no longer a "slot limit" for pike; bait, multiple hooks, spears, and bow and arrow gear are now allowed. For the purposes of sport fishing, legal bow and arrow gear includes crossbows. When fishing through the ice for pike, anglers may use two hooks on a single line, provided that both hooks are attached to one single piece of bait.
4. Allow catch-and-release fishing for kings in East Fork of Chulitna River through July 13. Only one single-hook, unbaited artificial lure may be used January 1 through July 13.
5. Increase possession limit to two kings for West Susitna River tributaries (excluding Alexander Creek).

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6. The Larson Creek drainage upstream of a marker ¼ mile upstream from its mouth is closed to sport fishing for all salmon year-round.
7. Nancy Lake Creek drainage upstream of a marker ¼ mile upstream from its mouth is closed to all salmon fishing including catch-and-release.
8. The Clearwater and Roscoe creek drainages are closed year-round to all fishing upstream from a marker ½ mile upstream of their confluences with the Chinitna River.
9. Open Fish Creek personal use fishery by EO when escapement goal is projected.
10. The Fish Creek Sockeye Salmon Management Plan was repealed.
11. Finding of a yield concern for Fish Creek sockeye salmon exists and Board recommended establishing an action plan to address this stock. Board directed staff to bring an action plan for the Big Lake drainage that will address the habitat and mixed hatchery and wild stock composition.
12. In the Northern District King Salmon Management Plan: The commercial setnet fishery will open on the first Monday on or after May 25 and close June 24. The number of commercial periods will depend upon expected northern Cook Inlet king salmon run strengths and there shall be no more than three commercial openings targeting kings. The area from an ADF&G marker located 1 mile south of the Theodore River to the Susitna River is open to fishing in the second regular period only. If the Theodore, Lewis or Ivan rivers are closed to sport fishing, the area from an ADF&G regulatory marker located 1 mile south of the Theodore River to the Susitna River is closed to commercial king salmon fishing for the remainder of the directed king salmon fishery. If the Deshka River is closed to sport fishing, the commercial king salmon fishery throughout the Northern District is closed for the remainder of the directed king salmon fishery. If the Chuitna River is closed to sport fishing, the area from an ADF&G marker located 1 mile south of the Chuitna river to the Susitna River is closed to commercial king salmon fishing for the remainder of the directed king salmon fishery.
13. Allow a catch-and-release fishery in the entire Theodore and Lewis rivers. No bait, single hook only.
14. Open Wasilla Creek from its mouth to the Alaska Railroad bridge for salmon fishing (excluding king salmon). Saturday and Sunday only from 6:00 a.m.–6:00 p.m. only.
15. Eliminate use of bait on Little Susitna River July 14, upstream of the Little Susitna Public Use Facility.
16. Allow use of bait on Deshka River from its mouth upstream to a marker at River Mile 17 beginning June 8.

APPENDIX G

Appendix G1.-Northern Cook Inlet Management Area northern pike waters.

Susitna Basin Lakes

Alexander Creek

1. Alexander Lake
2. Sucker Lake
3. Trail Lake
4. Rabbit Lake

Lower Susitna

1. Flathorn Lake
2. Figure 8 Lake

Mid Susitna

1. Witsoe Lake
2. Witsol Lake
3. Lockwood Lake
4. Lady Slipper
5. Unnamed
6. Unnamed
7. Unnamed
8. Vern Lake
9. Ding Dong

Yentna River

1. Whiskey Lake
2. Bulchitna Lake
3. Fish Creek Lake 1
4. Fish Creek Lake 2
5. Fish Creek Lake 3
6. Fish Creek Lake 4
7. Donkey Lake
8. Hewitt Lake
9. No Name (Big Bend)
10. Chelatna Lake
11. Cabin Lake (Big Bend)
12. Pear Lake (Up. Skwentna)
13. Stickleback Lake

Skwentna River

1. Eight Mile Lake
2. Seven Mile Lake
3. No Name (Herk Strip)
4. One Stone Lake

Deshka River

1. Parker Lake
2. Trapper Lake
3. No Name Lake
4. Ambler Lake
5. Rocky Lake
6. Neil Lake
7. Kroto Lake
8. No Name 1mi SW Parker
9. No Name 2 mi SW Parker

Upper Susitna

1. Kashwitna Lake^a
2. Caswell Lake^a
3. Fish Lake^a

4. Sawmill Lake^a

5. Swan Lake

Nancy Lake Area

1. Redshirt Lake
2. Lynx Lake
3. Cow Lake
4. Little Chicken Lake
5. Big No Luck Lake
6. South Rolly Lake
7. North Rolly Lake
8. Tanaina Lake
9. Milo Lake
10. Frazer Lake
11. Little Frazer Lake
12. James Lake
13. Owl Lake
14. Char Lake
15. Ardaw Lake
16. Phoebe Lake
17. Chicken Lake
18. Echo Pond #1
19. Echo Pond #2
20. Echo Pond #3
21. Candle Stick Lake
22. Bains Pond #1
23. Bains Pond #2
24. Bains Pond #3

Susitna Tributaries

1. Fish Creek (Flathorn)
2. Fish Creek (Kroto)
3. Lake Creek
4. Fish Lake Creek
5. Alexander Creek
6. Trappers Creek
7. Sucker Creek
8. Montana Creek
9. Rolly Creek
10. Moose Creek
11. Bottle Creek
12. Hewitt Creek
13. Donkey Creek
14. Indian Creek (Yentna)
15. Indian (Chulitna)^a
16. Rabideux Creek
17. Fish Lake Creek
18. Kutna Creek (Yentna)
19. Shell Creek
20. Eightmile Creek
21. Caswell Creek
22. Witsoe Creek
23. Trapper (Talkeetna)^a
24. Talachulitna Creek^a

25. Johnson Creek
26. Otter Creek
27. Unnamed (Lower Su)
28. Sunshine Creek^a
29. Anderson Creek^a
30. Wiggel Creek^a
31. Birch Creek^a
32. Yentna River
33. Skwentna River
34. Chulitna River^a
35. Tokositna
36. Deshka River

Knik Arm Drainages

1. Little Susitna
2. Swan Lake^a
3. Jim Lake/Jim Creek
4. Knik Lake
5. Fish Creek (Big Lake)
6. Meadow Creek (Big Lake)
7. Mink Creek
8. Fire Creek

West Cook Inlet

1. Chuit River
2. Chuitbunga Lake
3. Threemile Creek
4. Tukallah Lake
5. Nikolai River

Anchorage Lakes

1. Sand Lake
2. Delong Lake
3. Lower Fire Lake
4. Upper Fire Lake

Mat-Valley Lakes

1. Crystal Lake
2. Long Lake
3. Prator Lake
4. Rainbow Lake^a
5. Memory Lake
6. Finger Lake
7. Cottonwood Lake^a
8. Horseshoe Lake (Little-Su)
9. Andersen Lake
10. Mud Lake^a
11. Wasilla Lake^a

^a Reported but not confirmed northern pike populations

APPENDIX H

Appendix H1.-Deshka River weir daily counts, 2003.

Date	Chinook Salmon					Coho Salmon			RS	CS	PS	N	River Water			#	General comments
	Daily Count	Harv above	Cum Count	# Samp	# F	Daily Count	Harv Cum	above	Daily	Daily	Daily	Daily	Pike Stage (ft)	Temp. (C)	Clarity (relative)	Boats	
21-May																	installed all panals and trap
22-May	21		21			0			0	0	0	0				6	fish tight at 2 pm
23-May	147		168			0			0	0	0	4	1.28	13.00	good	7	
24-May	108		276			0			0	0	0	1	1.22	13.00	good	15	
25-May	210	1	485			0			0	0	0	2	1.18	13.00	good	5	
26-May	127		612	10	6	0			0	0	0	2	1.08	13.00	good	5	
27-May	237		849			0			0	0	0	1	1.04	13.00	good	4	5 rainbows
28-May	678	1	1,526	10	8	0			0	0	0	3	1.16	12.50	good	4	2 rainbows
29-May	490		2,016			0	0		0	0	0	0	1.18	12.50	good	4	2 rainbows
30-May	381		2,397	30	22	0	0		0	0	0	0	1.06	12.50	good	12	3 RT 11 long nose suckers
31-May	340	1	2,736			0	0		0	0	0	1	1.00	13.50	good	17	2 RT 14 longnose suckers
1-Jun	708	1	3,443			0	0		0	0	0	0	1.07	14.00	good	12	1 rainbow, 3 suckers
2-Jun	454	0	3,897	11	6	0	0		0	0	0	0	1.48	14.00	good	5	2 RT 1 longnose sucker
3-Jun	149	0	4,046	10	3	0	0		0	0	0	0	1.36	13.50	good	5	3 rainbow
4-Jun	28	7	4,067			0	0		0	0	0	0	1.20	14.00	good	8	1 RT 5 long nose suckers
5-Jun	149	2	4,214			0	0		0	0	0	0	1.10	14.5	good	7	
6-Jun	130	5	4,339			0	0		0	0	0	1	1.00	14.5	good	17	
7-Jun	238	2	4,575			0	0		0	0	0	0	1.02	13.0	fair	29	1 rainbow
8-Jun	1,088	46	5,617	10	6	0	0		0	0	0	0	1.03	13.5	fair	16	
9-Jun	1,315	9	6,923	20	14	0	0		0	0	0	0	1.00	13.5	fair	6	
10-Jun	1,253	17	8,159	20	6	0	0		0	0	0	0	0.96	15.0	good	8	1 rainbow
11-Jun	1,387	21	9,525	20	9	0	0		0	0	0	0	0.90	15.0	good	12	
12-Jun	1,471	4	10,992	14	8	0	0		0	0	0	0	0.94	17.0	good	18	
13-Jun	2,060	17	13,035	20	7	0	0		0	0	0	0	0.94	18.0	good	14	2 rainbow
14-Jun	3,014	10	16,039	30	14	0	0		0	0	0	0	0.85	17.5	good	18	8 rainbow
15-Jun	1,468	26	17,481	10	5	0	0		0	0	0	0	0.82	17.0	good	14	
16-Jun	2,345	10	19,816	30	13	0	0		0	0	0	0	0.94	17.0	good	8	
17-Jun	1,141	14	20,943	15	9	0	0		0	0	0	0	0.96	16.5	good	14	
18-Jun	1,014	22	21,935	10	4	0	0		0	0	0	0	0.96	16.0	good	15	
19-Jun	2,151	13	24,073	20	10	0	0		0	0	0	1	0.81	16.0	good	15	5 floaters
20-Jun	2,732	18	26,787	30	8	0	0		0	0	0	0	0.76	17.0	good	23	
21-Jun	1,658	11	28,434	20	7	0	0		0	0	0	0	0.74	17.0	good	18	1 rainbow
22-Jun	1,874	81	30,227	20	10	0	0		0	0	0	0	0.72	17.0	good	9	2 floaters
23-Jun	1,065	9	31,283	20	6	0	0		0	0	0	1	0.70	17.0	good	5	
24-Jun	1,098	52	32,329	20	5	0	0		0	0	0	2	0.68	17.0	good	12	lots 1 ocean fish in AM
25-Jun	434	18	32,745	20	5	0	0		0	0	0	0	0.64	17.0	good	10	1 floater-lots 1ocean 5ks mts
26-Jun	725	12	33,458	15	6	0	0		0	0	0	0	0.60	17.0	good	11	2 RT 2 suckers, 4 floaters
27-Jun	242	28	33,672	22	10	0	0		0	0	0	0	0.60	17.0	good	13	6 RT 3 suckers, 3 floaters
28-Jun	1,057	11	34,718	20	9	0	0		0	0	0	1	0.62	17.0	good	12	4 rainbow, 4 suckers
29-Jun	931	12	35,637	20	8	0	0		0	0	0	0	0.60	17.0	good	11	5 rainbow, 6 suckers
30-Jun	679	8	36,308	11	6	0	0		0	0	0	6	0.56	17.0	good	5	7 rainbow, 9 suckers
1-Jul	542	0	36,850	8	4	0	0		0	0	0	0	0.48	18.0	good	7	5 rainbow, 6 suckers
2-Jul	71	3	36,918	0	0	0	0		0	0	0	0	0.54	17.0	good	3	4 rainbow, 6suckers
3-Jul	1,119	1	38,036	20	6	0	0		0	0	1	0	1.00	17.0	poor	8	
4-Jul	54	6	38,084	0	0	0	0		0	0	0	0	2.47	15.0	bad	15	
5-Jul	169	16	38,237	10	2	0	0		0	0	0	0	1.78	17.0	poor	10	
6-Jul	103	11	38,329	0	0	0	0		0	0	0	0	1.38	18.0	poor	5	
7-Jul	139	8	38,460	0	0	0	0		0	1	0	0	1.07	19.0	good	1	
8-Jul	189	4	38,645	10	2	2	2		2	0	0	0	0.91	19.0	good	6	
9-Jul	88	11	38,722	0	0	0	2		0	0	0	0	0.88	19.0	good	6	
10-Jul	12	0	38,734	0	0	1	3		0	0	0	0	0.74	19.0	good	3	
11-Jul	24	11	38,747	0	0	0	3		0	0	0	0	0.60	19.0	good	9	
12-Jul	62	2	38,807	0	0	8	11		0	0	0	0	0.58	20.0	good	9	
13-Jul	78	11	38,874	0	0	5	16		0	0	0	0	0.54	20.0	good	6	
14-Jul	22	0	38,896	0	0	9	25		0	0	1	0	0.48	20.0	good	2	

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Appendix H1.-Page 2 of 2.

Date	Chinook Salmon					Coho Salmon			RS	CS	PS	N.	River Water			#	General comments
	Daily	Harv	Cum	#	#	Daily	Harv						Pike	Stage	Temp.	Clarity	
	Count	above	Count	Samp	F	Count	Cum	above	Daily	Daily	Daily	Daily	(ft)	(C)	(relative)	Boats	
15-Jul	18	0	38,914	0	0	0	25		0	0	0	0	0.38	20.0	good	0	
16-Jul	8	0	38,922	0	0	0	25	0	0	0	0	0	0.36	18.0	good	1	
17-Jul	3	0	38,925	0	0	0	25	0	0	0	0	0	0.38	17.5	good		1 raft/water level 2.3 A.M.
18-Jul	0	0	38,925	0		0	25		0	0	0	0	2.46	15.0	bad	5	
19-Jul	0	0	38,925	0		0	25		0	0	0	0	2.98	15.0	bad	8	
20-Jul	2	0	38,927	0		0	25		0	0	0	0	2.28	15.0	bad	4	
21-Jul	5	0	38,932	4	1	7	32		2	0	4	0	1.52	17.0	poor	3	
22-Jul	17	0	38,949	0		16	48	0	1	0	5	0	1.24	17.0	good	2	
23-Jul	22	0	38,971	0		107	155	0	0	0	40	0	1.10	17.0	good	1	
24-Jul	7	0	38,978	0		55	210	0	4	0	35	0	1.00	17.0	good	2	
25-Jul	17	0	38,995	0		346	556	0	13	0	352	0	0.92	17.0	good	9	
26-Jul	36	0	39,031	0		707	1,263	0	12	1	1,399	0	1.02	16.0	poor	16	
27-Jul	14	0	39,045	0		396	1,659	10	3	6	1,483	0	0.98	16.0	poor	9	
28-Jul	12	0	39,057	0		936	2,595	15	3	2	926	0	1.02	16.0	poor	5	water 1.78 @ 11:30 p.m.
29-Jul	12	0	39,069	0		1,305	3,900	6	4	2	428	0	2.40	15.0	poor	4	
30-Jul	10	0	39,079			609	4,509	3	8	5	167	0	2.74	15.0	poor	7	
31-Jul	20	0	39,099			987	5,496	6	2	3	44	0	2.18	15.0	poor	6	
1-Aug	36	0	39,135			756	6,252	20	2	2	67	0	1.73	15.5	poor	22	
2-Aug	6	0	39,141			1,085	7,337	18	4	7	326	0	1.45	16.0	poor	14	
3-Aug	13	0	39,154			1,026	8,363	67	2	8	511	0	1.20	16.0	poor	10	
4-Aug	7	0	39,161			331	8,694	39	0	4	82	0	1.03	16.0	good	9	
5-Aug	16	0	39,177			453	9,147	14	3	4	183	0	0.94	16.0	good	5	
6-Aug	17	0	39,194			510	9,657	14	5	6	297	0	0.88	16.0	good	4	
7-Aug	12	0	39,206			452	10,109	75	0	4	390	0	0.78	16.0	good	8	
8-Aug	6	0	39,212			241	10,350	40	0	1	418	0	0.71	17.0	good	17	1 rainbow trout
9-Aug	4	0	39,216			337	10,687	16	0	1	514	0	0.65	18.0	good	20	
10-Aug	11	0	39,227			145	10,832	56	1	1	247	0	0.58	19.0	good	15	
11-Aug	11	0	39,238			101	10,933	41	0	1	110	1	0.56	18.0	good	3	
12-Aug	15		39,253			242	11,175	15	4	2	236	0	0.70	17.0	good	2	
13-Aug	34		39,287			1,487	12,662	9	0	10	714	0	1.10	16.0	poor	7	
14-Aug	35		39,322			2,258	14,920	3	0	13	108	0	1.92	15.0	poor	8	
15-Aug	52		39,374			788	15,708	17	0	3	12	0	2.22	15.0	poor	13	
16-Aug	20		39,394			152	15,860	12	0	1	8	0	1.94	15.0	poor	12	2 canoes, 1 raft
17-Aug	15		39,409			377	16,237	11	0	2	6	0	2.26	15.0	poor	1	1 canoe; weir underwater
18-Aug	5		39,414			134	16,371	0	0	3	1	0	3.08	15.0	poor	4	much of weir underwater
19-Aug	1		39,415	0		41	16,412	0	0	1	0	0	2.95	15.0	poor	3	weir fish tight a at 6pm
20-Aug	9		39,424			53	16,465	0	0	9	6	0	2.38	15.0	poor	1	
21-Aug	9		39,433			45	16,510	2	1	4	13	0	1.90	15.0	poor	3	
22-Aug	7		39,440			64	16,574	12	0	3	13	0	1.64	15.0	poor	5	
23-Aug	3		39,443			33	16,607	6	0	4	13	0	1.48	14.0	poor	4	
24-Aug	10		39,453			76	16,683	14	0	0	25	0	1.28	14.0	poor	4	
25-Aug	3		39,456			21	16,704	0	0	5	4	0	1.18	14.0	fair	2	
26-Aug	5		39,461			116	16,820	0	0	10	16	0	1.32	13.5	poor	0	
27-Aug	4		39,465			73	16,893	0	0	0	1	0	2.88	12.5	poor		
28-Aug	2		39,467			51	16,944	0	1	1	0	0	2.89	12.0	poor	0	
29-Aug	6		39,473			36	16,980	0	1	5	0	0	2.30	12.0	poor	3	
30-Aug	7		39,480			66	17,046	0	0	4	0	0	1.88	13.0	poor	4	
31-Aug	3		39,483			14	17,060	0	0	2	0	0	1.66	13.0	poor	1	
1-Sep	4		39,487			55	17,115	3	0	2	1	0	1.64	13.0	poor	2	
2-Sep	2		39,489			18	17,133	0	0	2	1	0	1.86	13.0	poor	3	
3-Sep	1		39,490			17	17,150	0	0	0	0	0	1.60	13.0	poor	1	
4-Sep	1		39,491			57	17,207	0	0	1	5	0	1.56	13.0	poor	2	water rising
5-Sep	0		39,491			39	17,246	0	0	2	0	0	2.00	11.0	poor	5	
6-Sep	2		39,493			23	17,269	0	1	0	1	0	2.46	12.0	poor	4	1 RBT
7-Sep	1		39,494			19	17,288	1	1	2	0	0	1.64	10.0	poor	8	
8-Sep	2		39,496			17	17,305	0	0	2	0	0	1.40	11.0	fair	2	
Total	40,069	573		560	245	17,305		545	80	152	9,214	27					

Appendix H2.-Fish Creek weir counts, 2003.

Date	Sockeye						Coho				River Water						
	Adults	Jacks	Total	Total	#	Otolith	Ad Clips				KS	Pink	Chum	Other	Stage	Temp.	Comments
	Daily	Daily	Daily	Cum	Sampled	Collected	Daily	Cum	Inspt	Clip	Daily	Daily	Daily	Fish	(ft)	(C)	
8-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0			fish tight at 11:18 am
9-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.00	19.0	sunny and hot
10-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.00	18.0	overcast
11-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.00	18.0	partly cloudy
12-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.00	18.0	clear and hot
13-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.95	20.0	clear and hot
14-Jul	259	4	263	263	0	0	0	0	0	0	0	0	0	0	0.92	18.5	partly cloudy, slight breeze
15-Jul	0	0	0	263	0	0	0	0	0	0	0	0	0	0	0.92	18.0	sunny
16-Jul	0	0	0	263	0	0	0	0	0	0	0	0	0	0	0.90	18.0	overcast and windv
17-Jul	0	0	0	263	0	0	0	0	0	0	0	0	0	0	0.90	15.0	overcast
18-Jul	0	0	0	263	0	0	0	0	0	0	0	0	0	0	0.90	15.0	clear and hot
19-Jul	22	0	22	285	0	0	0	0	0	0	0	0	0	0	0.89	16.5	clear and hot
20-Jul	105	1	106	391	3	0	0	0	0	0	0	0	0	0	0.88	17.0	
21-Jul	6,413	11	6,424	6,815	56	15	0	0	0	0	0	0	0	0	0.88	17.5	overcast rain off and on
22-Jul	5,630	8	5,638	12,453	40	15	2	2	2	0	0	0	0	0	0.90	16.0	rain sunny breaks
23-Jul	7,076	13	7,089	19,542	60	20	1	3	1	0	0	0	0	0	0.86	15.0	partly cloudy
24-Jul	6,118	15	6,133	25,675	0	0	7	10	7	0	0	3	0	0	0.84	16.0	rain all day
25-Jul	6,212	14	6,226	31,901	150	150	2	12	0	0	0	0	0	0	0.88	16.0	partly cloudy
26-Jul	68	0	68	31,969	0	0	0	12	0	0	0	0	0	0	0.86	15.5	overcast rain
27-Jul	9,265	21	9,286	41,255	0	0	7	19	0	0	0	0	0	0	0.88	14.5	overcast rain
28-Jul	8,006	37	8,043	49,298	40	15	27	46	6	0	0	0	2	0	0.86	13.5	overcast
29-Jul	5,555	32	5,587	54,885	40	0	93	139	9	0	0	2	2	0	0.88	13.0	rain am and partly cloudy pm
30-Jul	3,419	21	3,440	58,325	60	20	98	237	10	0	0	0	0	0	0.84	14.0	overcast am and partly cloudy pm
31-Jul	507	6	513	58,838	0	0	3	240	0	0	0	0	0	0	0.84	14.0	clear
1-Aug	9,152	148	9,300	68,138	191	191	29	269	0	0	0	0	0	0	0.80	14.0	partly cloudy
2-Aug	7,439	54	7,493	75,631	0	0	58	327	10	0	0	0	0	0	0.79	14.0	clear
3-Aug	5,608	57	5,665	81,296	0	0	85	412	5	0	0	3	2	0	0.79	15.0	overcast showers
4-Aug	1,242	22	1,264	82,560	15	15	24	436	0	0	0	0	0	0	0.78	12.5	sunny warm
5-Aug	1,974	43	2,017	84,577	10	0	52	488	5	0	0	1	3	0	0.76	13.0	sunny warm
6-Aug	1,027	32	1,059	85,636	6	0	50	538	10	1	0	1	0	0	0.76	15.0	partly cloudy thin clouds
7-Aug	0	0	0	85,636	0	0	0	538	0	0	0	0	0	0	0.76	14.0	hazy
8-Aug	901	30	931	86,567	59	59	8	546	0		0	0	0	0	0.76	15.5	clear
9-Aug	897	30	927	87,494	12	0	12	558	0		0	0	0	0	0.74	16.0	clear
10-Aug	914	12	926	88,420	0	0	38	596	10		0	0	0	0	0.74	17.0	clear
11-Aug	33	2	35	88,455	0	0	1	597	1	0	0	0	0	0	0.72	17.0	clear
12-Aug	1,609	18	1,627	90,082	10	0	102	699	10	0	0	0	1	0	0.81	15.0	cloudy rainy
13-Aug	805	5	810	90,892	5	0	15	714	4	0	0	1	2	0	0.78	14.0	rainy
14-Aug	192	1	193	91,085	0	0	2	716	0		0	0	0	0	0.80	13.5	rain
15-Aug	172	3	175	91,260	0	0	1	717	0		0	0	0	0	0.81	13.5	rain
16-Aug	340	5	345	91,605	6	0	23	740	6		0	2	1	0	0.86	14.0	rain
17-Aug	136	2	138	91,743	0	0	2	742	0		0	0	0	0	0.89	13.5	
18-Aug	17	2	19	91,762	0	0	0	742	0	0	0	0	0	0	0.84	12.5	partly sunnv
19-Aug	10	0	10	91,772			0	742	0		0	0	0	0	0.84	12.5	partly cloudy
20-Aug	9	0	9	91,781	0	0	3	745	1	0	0	0	0	0	0.84	13.0	rain, sunny breaks, rain
21-Aug	17	2	19	91,800	0	0	3	748	0	0	0	0	0	0	0.88	12.0	rain am and sunny pm
22-Aug	11	1	12	91,812	0		0	748	0		0	0	0	0	0.89	12.0	clear
23-Aug	0	0	0	91,812	0		0	748	0		0	0	0	0	0.88	11.0	partly cloudy and rain in pm
24-Aug	1	0	1	91,813	0		0	748	0		0	0	0	0	0.87	13.0	overcast and rain pm
25-Aug	0	0	0	91,813	0		0	748	0	0	0	0	0	0	0.85	13.5	rain all day
26-Aug	4	0	4	91,817	0		0	748	0	0	0	0	0	0	0.87	12.0	rain am and overcast rest
27-Aug	5	0	5	91,822	0		0	748	0		0	0	0	0	0.90	12.0	overcast and occasional rain
28-Aug	0	0	0	91,822	0		0	748	0	0	0	0	0	0	0.89	11.0	overcast/showers
29-Aug	0	0	0	91,822	0		0	748	0		0	0	0	0	0.89	11.0	overcast/showers
30-Aug	1	0	1	91,823	0		0	748	0		0	0	0	0	0.90	11.5	partly cloudy
31-Aug	0	0	0	91,823	0		5	753	5		0	0	0	0	0.90	12.0	overcast showers

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Appendix H2.-Page 2 of 2.

Date	Sockeye					Coho					River Water					Comments	
	Adults	Jacks	Total	Total	#	Otolith	Ad Clips				KS	Pink	Chum	Other	Stage		Temp.
	Daily	Daily	Daily	Cum	Sampled	Collected	Daily	Cum	Inspt	Clip	Daily	Daily	Daily	Fish	(ft)		(C)
1-Sep	1	0	1	91,824	0		9	762	9	0	0	0	0	0	0.89	12.0	overcast sunny breaks
2-Sep	5	0	5	91,829	0		6	768	6	0	0	0	0	0	0.88	11.5	overcast sunny breaks and rain pm
3-Sep	9	0	9	91,838	0		153	921	100	0	0	0	0	0	0.92	12.5	rain off and on
4-Sep	5	0	5	91,843	0		8	929	8	0	0	0	0	0	0.98	12.0	overcast all day
5-Sep	2	0	2	91,845	0		0	929	0	0	0	0	0	0	0.95	11.0	partly cloudy
6-Sep	3	0	3	91,848	0		0	929	0	0	0	0	0	0	0.94	10.0	clear
7-Sep	1	0	1	91,849	0		0	929	0	0	0	0	0	0	0.92	9.5	clear
8-Sep	12	0	12	91,861	0		2	931	2	0	0	0	0	0	0.90	10.5	clear pm showers
9-Sep	12	0	12	91,873	0		8	939	8	0	0	0	0	0	0.88	10.0	overcast
10-Sep	8	0	8	91,881	0		10	949	8	0	0	0	0	0	0.88	9.0	clear
11-Sep	1	0	1	91,882	0		8	957	8	0	0	0	0	0	0.87	8.5	clear
12-Sep	7	0	7	91,889	0		3	960	3	0	0	0	0	0	0.85	8.5	partly cloudy and rain in pm
13-Sep	32	0	32	91,921	0		238	1,198	40	0	0	0	0	0	0.92	10.0	clear and cold
14-Sep	2	0	2	91,923	0		0	1,198	0	0	0	0	0	0	0.90	7.0	cold, clear and windy
15-Sep	1	0	1	91,924	0		0	1,198	0	0	0	0	0	0	0.86	5.0	clear cold breezy
16-Sep	1	0	1	91,925	0		0	1,198	0	0	0	0	0	0	0.80	4.0	clear cold
17-Sep	0	0	0	91,925	0		0	1,198	0	0	0	0	0	0	0.79	3.5	clear colder
18-Sep	0	0	0	91,925	0		0	1,198	0	0	0	0	0	0	0.79	4.0	clear cold
19-Sep	0	0	0	91,925	0		0	1,198	0	0	0	0	0	0	0.78	3.0	clear cold
20-Sep	0	0	0	91,925	0		0	1,198	0	0	0	0	0	0	0.77	4.0	overcast and raining
21-Sep	0	0	0	91,925	0		0	1,198	0	0	0	0	0	0	0.77	4.0	partly cloudy
22-Sep	0	0	0	91,925	0		1	1,199	0	0	0	0	0	0	0.77	5.0	clear warmer
23-Sep	8	0	8	91,933	0		1	1,200	0	0	0	0	0	0	0.81	3.0	clear cold windy
24-Sep	19	0	19	91,952			31	1,231							0.82	4.0	
overcast, weir removed by noon, 911 coho and 346 sockeye counted between weir and Knik Goose Bay Rd																	
TOTAL	91,300	652		91,952	763	500	1,231	1,231	294	1	0	13	13				

Appendix H3.-Cottonwood Creek weir counts, 2003.

Date	Sockeye Salmon					Coho Salmon (BEG=800-2,200)										River Water				
	Adults	Jacks	Total	Total	#	#					Valid	KS	Pink	Chum	Other	Stage	Temp.	Comments		
	Daily	Daily	Daily	Cum	Sam	Daily	Cum	Samp	Inspt	Clip	CWT's	Daily	Daily	Daily	Fish	(ft)	(C)			
10-Jul	0	0	0	0	0	0	0	0	0			0	0	0	0			Fish tight at 11:00 am		
11-Jul	4	0	4	4	0	0	0	0	0			0	0	0	1	1.20	17.0	1 RBT		
12-Jul	0	0	0	4	0	0	0	0	0			0	0	0	0	1.20	17.0			
13-Jul	1	0	1	5	0	0	0	0	0			0	0	0	0	1.20	20.0			
14-Jul	0	0	0	5	0	0	0	0	0			0	0	0	0	1.20	18.0			
15-Jul	0	0	0	5	0	0	0	0	0			0	0	0	0	1.20	18.0			
16-Jul	0	0	0	5	0	0	0	0	0			0	0	0	0	1.20	18.0			
17-Jul	0	0	0	5	0	0	0	0	0			0	0	0	0	1.20	16.0			
18-Jul	1	0	1	6	0	0	0	0	0			0	0	0	0	1.20	16.0			
19-Jul	1	0	1	7	0	0	0	0	0			0	0	0	0	1.15	19.0			
20-Jul	0	0	0	7	0	0	0	0	0			0	0	0	0	1.13	19.0			
21-Jul	1	0	1	8	0	0	0	0	0			0	0	0	0	1.20	18.0			
22-Jul	2	0	2	10	0	0	0	0	0			0	0	0	0	1.20	15.0			
23-Jul	102	0	102	112	3	0	0	0	0			0	0	0	0	1.18	16.0			
24-Jul	100	0	100	212	7	0	0	0	0			0	0	0	0	1.16	16.0			
25-Jul	455	1	456	668	0	1	1	0	1	0	0	0	0	0	0	1.18	15.0			
26-Jul	439	1	440	1,108	40	1	2	0	0	0	0	0	0	0	0	1.18	16.0			
27-Jul	0	0	0	1,108	0	0	2	0	0	0	0	0	0	0	0	1.18	14.0			
28-Jul	257	0	257	1,365	40	1	3	0	1	0	0	0	0	0	0	1.20	14.0			
29-Jul	605	3	608	1,973	40	7	10	2	7	0	0	0	0	0	0	1.20	14.0			
30-Jul	262	0	262	2,235	40	7	17	3	7	2	1	0	0	0	0	1.25	14.0			
31-Jul	243	2	245	2,480	40	13	30	4	13	7	7	0	0	0	2	1.25	14.0	2 RBT		
1-Aug	118	2	120	2,600	40	3	33	2	3	2	2	0	0	0	1	1.25	14.5	1 RBT		
2-Aug	322	7	329	2,929	40	7	40	2	7	3	3	0	0	0	1	1.24	14.5	1 RBT		
3-Aug	0	0	0	2,929	0	0	40	0	0	0	0	0	0	0	0	1.24	14.5			
4-Aug	430	7	437	3,366	40	10	50	1	10	4	4	0	0	0	1	1.24	14.0	1 RBT		
5-Aug	293	5	298	3,664	40	1	51	1	1	1	1	0	0	0	1	1.25	13.5	1 RBT		
6-Aug	128	4	132	3,796	40	16	67	4	16	6	6	0	0	0	0	1.25	15.0			
7-Aug	205	7	212	4,008	40	14	81	7	14	6	6	0	0	0	0	1.25	15.0			
8-Aug	111	10	121	4,129	28	3	84	0	3	1	1	0	0	0	0	1.24	15.0			
9-Aug	59	6	65	4,194	17	26	110	8	26	9	9	0	0	0	0	1.25	16.0			
10-Aug	12	3	15	4,209	5	27	137	11	27	6	6	0	0	0	0	1.25	17.0			
11-Aug	4	0	4	4,213	4	1	138	1	1	0	0	0	0	0	0	1.25	17.5			
12-Aug	162	1	163	4,376	4	33	171	5	33	13	13	0	0	0	0	1.30	14.0			
13-Aug	33	2	35	4,411	2	77	248	26	77	25	23	0	0	0	0	1.28	14.5			
14-Aug	2	0	2	4,413	0	3	251	2	3	1	1	0	0	0	0	1.30	14.5			
15-Aug	13	4	17	4,430	0	9	260	8	9	4	4	0	0	1	0	1.28	14.0			
16-Aug	32	4	36	4,579	4	43	303	23	43	15	15	0	0	0	0	1.32	15.0			
17-Aug	34	3	37	4,543	0	157	460	40	157	51	51	0	0	0	2	1.38	14.0	2 RBT		
18-Aug	2	1	3	4,506	3	6	466	5	6	3	3	0	0	0	0	1.34	13.5			
19-Aug	5	0	5	4,511	1	0	466	0	0	0		0	0	0	0	1.34	14.0			
20-Aug	3	0	3	4,514	0	1	467	1	1	0	0	0	0	0	0	1.32	13.0			
21-Aug	10	0	10	4,524	0	0	467	0	0	0	0	0	0	0	0	1.32	12.5			
22-Aug	15	1	16	4,540	2	9	476	8	9	3	3	0	0	0	1	1.32	12.0	1 RBT		
23-Aug	1	0	1	4,541	0	0	476	0	0	0	0	0	0	0	0	1.32	12.0			
24-Aug	3	0	3	4,544	0	0	476	0	0	0	0	0	0	0	0	1.32	14.0			
25-Aug	0	0	0	4,544	0	0	476	0		0	0	0	0	0	0	1.33	14.0			
26-Aug	10	1	11	4,555	1	0	476	0	0	0	0	0	0	0	0	1.36	13.5			
27-Aug	4	0	4	4,559	0	0	476	0	0	0	0	0	0	0	0	1.36	12.5			
28-Aug	1	0	1	4,560	0	1	477	1	1	0	0	0	0	0	0	1.36	12.0			
29-Aug	0	0	0	4,560	0	0	477	0	0	0	0	0	0	0	0	1.32	12.0			
30-Aug	2	0	2	4,562	0	0	477	0	0	0	0	0	0	0	0	1.32	12.0			
31-Aug	0	0	0	4,562	0	0	477	0	0	0	0	0	0	0	0	1.32	12.5			
1-Sep	0	0	0	4,562	0	0	477	0	0	0	0	0	0	0	0	1.32	12.5			
2-Sep	22	0	22	4,584	2	1	478	0	1	1	1	0	0	0	0	1.30	12.0			

-continued-

Appendix H3.-Page 2 of 2.

Date	Sockeye Salmon					Coho Salmon (BEG=800-2,200)										River Water		
	Adults	Jacks	Total	Total	#	#					Valid	KS	Pink	Chum	Other	Stage	Temp.	Comments
	Daily	Daily	Daily	Cum	Sam	Daily	Cum	Samp	Inspt	Clip	CWT's	Daily	Daily	Daily	Fish	(ft)	(C)	
3-Sep	2	0	2	4,586	0	2	480	2	2	1	1	0	0	0	0	1.30	13.5	
4-Sep	1	0	1	4,587	0	9	489	6	9	0	0	0	0	0	0	1.30	13.0	
5-Sep	3	0	3	4,590	3	3	492	3	3	1	1	0	0	0	0	1.32	11.5	
6-Sep	2	0	2	4,592	0	0	492	0	0	0	0	0	0	0	0	1.32	11.0	
7-Sep	0	0	0	4,592	0	0	492	0	0	0	0	0	0	0	0	1.32	10.0	
8-Sep	0	0	0	4,592	0	2	494	2	2	0	0	0	0	0	2	1.32	12.0	1 RBT and 1 DV
9-Sep	0	0	0	4,592	0	0	494	0	0	0	0	0	0	0	0	1.30	11.5	
10-Sep	1	0	1	4,593	0	3	497	3	3	1	1	0	0	0	0	1.30	10.0	
11-Sep	2	0	2	4,595	0	0	497	0	0	0	0	0	0	0	0	1.30	9.5	
12-Sep	0	0	0	4,595	0	3	500	3	3	0	0	0	0	0	0	1.30	10.0	
13-Sep	2	0	2	4,597	0	101	601	40	101	22	22	0	0	0	2	1.32	11.5	2 RBT
14-Sep	1	0	1	4,598	0	25	626	24	25	7	7	0	0	0	1	1.30	8.5	1 RBT
15-Sep	2	0	2	4,600	0	6	632	5	6	1	1	0	0	0	0	1.30	6.0	
16-Sep	0	0	0	4,600	0	0	632	0	0	0	0	0	0	0	0	1.30	5.0	
17-Sep	0	0	0	4,600	0	1	633	1	1	0	0	0	0	0	0	1.30	5.0	
18-Sep	0	0	0	4,600	0	3	636	3	3	0	0	0	0	0	0	1.30	5.0	
19-Sep	0	0	0	4,600	0	0	636	0	0	0	0	0	0	0	0	1.28	4.5	
20-Sep	0	0	0	4,600	0	0	636	0	0	0	0	0	0	0	0	1.28	5.0	
21-Sep	0	0	0	4,600	0	0	636	0	0	0	0	0	0	0	0	1.26	5.0	
22-Sep	0	0	0	4,600	0	0	636	0	0	0	0	0	0	0	0	1.28	5.5	
23-Sep	0	0	0	4,600	0	0	636	0	0	0	0	0	0	0	0	1.26	4.5	
24-Sep	0	0	0	4,600	0	0	636	0	0	0	0	0	0	0	0	1.28	5.0	
25-Sep	0	0	0	4,600	0	0	636	0	0	0	0	0	0	0	0	1.30	5.0	
26-Sep	0	0	0	4,600	0	16	652	16	16	6	6	0	0	0	0	1.33	5.5	
27-Sep	0	0	0	4,600	0	38	690	28	38	12	12	0	0	0	0	1.32	5.5	
28-Sep	0	0	0	4,600	0	16	706	9	16	5	5	0	0	0	0	1.42	7.0	
29-Sep			0													14.42	7.5	weir removed
weir removed 85 live coho and 1 sockeye counted down stream																		
TOTAL	4,525	75	4,600	4,600	526	706	706	310	705	216	213	0	0	1	15			

Appendix H4.-Wasilla Creek and Spring Creek weir counts, 2003.

Date	Sockeye Salmon					Coho Salmon					River Water								Comments
	Adults	Jacks	Total	Total	#	#	#	KS	Pink	Chum	Stage	Temp.	Spring Creek						
	Daily	Daily	Daily	Cum	Samp								Daily	Cum	Samp	Inspt	Clip	Daily	
25-Jul	0	0		0	0	0	0				1	0	0	3.60	16.0	0	0	first day	
26-Jul	0	0		0	0	0	0				0	0	0	3.59	15.0	0	0		
27-Jul	0	0		0	0	0	0				0	0	2	3.61	13.0	0	0	Spg Cr water level 3.7	
28-Jul	1	0	1	1	1	0	0				4	0	17	3.85	13.0	0	0		
29-Jul	7	2	9	10	7	1	1	0	0	0	0	1	9	3.92	14.0	0	0		
30-Jul	7	0	7	17	3	0	1	0	0	0	0	0	7	3.92	14.0	0	0		
31-Jul	100	4	104	121	0	19	20	0	0	0	12	0	8	3.91	14.0	0	0		
1-Aug	33	0	33	154	33	0	20	0	0		0	0	7	4.00	15.0	0	0		
2-Aug	23	0	23	177	23	2	22	0	0		0	1	5	3.97	15.0	0	0		
3-Aug	14	2	16	193	16	0	22	0	0		0	0	7	3.95	15.0	0	0		
4-Aug	26	2	28	221	27	2	24	1	1	0	1	0	42	3.90	15.0	0	0		
5-Aug	44	3	47	268	26	5	29	5	5	0	2	0	70	3.82	15.0	0	0		
6-Aug	44	2	46	314	25	52	81	12	12	0	5	0	101	3.77	17.0	0	0		
7-Aug	53	4	57	371	30	77	158	0	0	0	2	0	105	3.73	17.0	0	0	lots of fish in the creek	
8-Aug	49	5	54	425	22	181	339	20	20	0	0	0	77	3.69	14.0	0	0	coho bonanza	
9-Aug	36	1	37	462	16	286	625	30	30	0	0	1	87	3.61	18.0	0	0		
10-Aug	50	4	54	516	30	251	876	23	23	0	0	0	54	3.58	18.0	0	0		
11-Aug	5	0	5	521	4	22	898	6	6	0	1	0	18	3.60	15.0	0	0		
12-Aug	10	2	12	533	5	276	1,174	35	35	0	1	0	107	3.92	14.0	0	0		
13-Aug	20	3	23	556	8	128	1,302	10	10	0	3	0	47	4.10	14.0	0	0	rain, bad winds	
14-Aug	4	0	4	560	3	18	1,320	3	3	0	0	1	7	4.12	14.0	0	0		
15-Aug	24	2	26	586	8	15	1,335	2	2	0	2	0	24	4.14	14.0	0	0		
16-Aug	14	4	18	648	6	49	1,384	6	6	0	2	0	31	4.14	14.0	0	0	rainy and windy	
17-Aug	26	0	26	630	11	176	1,560	20	20	0	0	1	21	4.15	15.0	0	0	partly sunny	
18-Aug	24	2	26	656	11	44	1,604	6	6	0	1	1	11	4.14	14.0	0	0		
19-Aug	9	1	10	666	3	29	1,633	2	2	0	2	1	9	4.08	14.0	0	0	lots of fish not moving	
20-Aug	2	1	3	669	0	7	1,640	2	2	0	1	0	1	4.06	14.0	0	0	water rising from 4.03	
21-Aug	7	2	9	678	3	25	1,665	3	3	0	0	0	2	4.08	14.0	0	0	more rain, rising water	
22-Aug	12	4	16	694	10	95	1,760	20	20	0	0	0	0	4.08	14.0	0	0		
23-Aug	13	3	16	710	0	145	1,905	10	10	0	0	1	4	4.18	11.0	0	0		
24-Aug	6	3	9	719	6	92	1,997	10	10	0	0	2	2	4.15	12.0	0	0		
25-Aug	1	0	1	720	0	26	2,023	5	5	0	0	0	0	4.09	13.0	0	0		
26-Aug	2	0	2	722	1	82	2,105	9	9	0	0	1	0	4.10	13.0	0	0		
27-Aug	1	0	1	723	0	72	2,177	7	7	0	0	0	1	4.12	12.0	0	0		
28-Aug	5	0	5	728	2	25	2,202	10	10	0	0	0	0	4.05	12.0	0	0		
29-Aug	1	0	1	729	0	14	2,216	0	0	0	0	0	0	4.05	13.0	0	0		
30-Aug	2	1	3	732	2	5	2,221	4	4	0	0	0	0	4.05	13.0	0	0		
31-Aug	1	0	1	733	0	126	2,347	4	4	0	0	0	2	4.10	12.0	0	0		
1-Sep	5	0	5	738	2	91	2,438	18	18	0	0	0	1	4.19	13.0	0	0	fish show up by Spg Ck	
2-Sep	5	1	6	744	4	94	2,532	6	6	0	0	0	0	4.16	13.0	0	0		
3-Sep	3	1	4	748	0	106	2,638	13	13	0	0	0	1	4.13	13.0	0	0		
4-Sep	0	0		748	0	82	2,720	9	9	0	0	0	0	4.09	12.0	0	0		
5-Sep	0	1	1	749	0	4	2,724	0	4	0	0	0	0	4.04	13.0	0	0		
6-Sep	0	0		749	0	5	2,729	4	4	0	0	0	0	3.97	14.0	0	0		
7-Sep	0	0		749	0	50	2,779	1	1	0	0	0	0	3.88	14.0	0	0		
8-Sep	1	2	3	752	0	14	2,793	7	7	0	0	0	0	3.84	14.0	0	0		
9-Sep	0	0		752	0	11	2,804	3	3	0	0	0	0	3.80	12.0	0	0	1 DV 390 FL	
10-Sep	0	0		752	0	8	2,812	3	3	0	0	0	0	3.77	12.0	0	0	2 Dolly Varden	
11-Sep	0	2	2	754	0	3	2,815	3	3	0	0	0	0	3.79	11.0	0	0		
12-Sep	1	0	1	755	0	5	2,820	5	5	0	0	0	1	3.70	10.0	0	0		
13-Sep	1	0	1	756	0	73	2,893	19	19	0	0	0	0	3.87	11.0	0	0		
14-Sep	0	0	0	756	0	59	2,952	2	2	0	0	0	0	3.87	8.0	0	0		
15-Sep	1	0	1	757	0	6	2,958	2	2	0	0	0	0	3.69	8.0	0	0		
16-Sep	0	0	0	757	0	4	2,962	0	0	0	0	0	0	3.60	6.0	0	0	750 below weir	
TOTAL	693	64		757	348	2,962	2,962	360	364	0	40	11	888						

Appendix H5.-Little Susitna River weir counts, 2003.

Date	Coho			Chum			River Water							Comments	
	Daily	Cum	Number Sampled	Adults Daily	Total Cum	Number Sampled	Chinook Daily	Pink Daily	Sockeye Daily	RBT Daily	DV Daily	WF Daily	Stage (ft)		Temp. (C)
Total	10,877	552		13,588	332	118	40	124	9	9	14				
18-Jul				56	56		1	0	0				1.00	15.0	weir fish tight by noon
19-Jul	0	0	0	115	171	20	5	0	0	1			1.00	15.0	
20-Jul	0	0	0	307	478	8	21	1	0	7			1.10	13.0	
21-Jul	0	0	0	121	599	3	17	2	1		2		1.15	14.0	
22-Jul	0	0	0	48	647	1	25	2	0				1.12		
23-Jul	1	1	1	578	1,225	19	3	4	2		1		0.98	13.0	
24-Jul	0	1	0	496	1,721	7	5	2	2				0.96	12.0	
25-Jul	0	1	0	698	2,419	0	10	1	1	1			0.90	13.0	
26-Jul	0	1	0	538	2,957	0	12	3	1		1		0.89	11.0	
27-Jul	2	3	0	463	3,420	20	5	2	0				0.90	11.0	
28-Jul	0	3	0	112	3,532	2	1	0	0				2.90	9.0	high, muddy
29-Jul	3	6	0	824	4,356	20	6	4	10		1		2.60	9.0	water falling, passed fish thru pickets
30-Jul	2	8	0	63	4,419	1	1	0	2				1.80	10.0	muddy
31-Jul	0	8	0	57	4,476	0	0	0	0				1.50	8.0	muddy
1-Aug	2	10	0	23	4,499	0	1	1	2				1.60	8.0	fair, 5 other fish, species??
2-Aug	0	10	0	15	4,514	0	1	0	3				1.60	9.0	fair
3-Aug	0	10	0	0	4,514	0	0	0	0				1.30	8.0	good
4-Aug	0	10	0	12	4,526	0	0	0	2				1.20	8.0	good
5-Aug	5	15	1	308	4,834	7	0	0	2				1.10	8.0	good
6-Aug	5	20	0	231	5,065	5	0	0	6		2		0.98	9.0	good/excellent
7-Aug	17	37	0	211	5,276	5	1	1	7				0.90	10.0	excellent
8-Aug	12	49	0	1,243	6,519	30	0	1	10				0.88	10.5	excellent
9-Aug	29	78	0	588	7,107	10	0	1	6				0.80	11.0	excellent
10-Aug	62	140	2	603	7,710	0	1	1	7				0.86	11.0	excellent
11-Aug	48	188	2	512	8,222	13	0	1	13				0.80	11.0	excellent
12-Aug	81	269	3	483	8,705	12	1	2	19		2		1.10	11.0	good, water rising and clarity diminishing
13-Aug	3	272	2	17	8,722	0	0	1	1				1.68	9.5	poor, water rose to 2.4
14-Aug	2	274	0	69	8,791	1	0	0	0				2.10	9.0	poor
15-Aug	18	292	0	618	9,409	20	0	2	0				1.80	9.0	poor, high water
16-Aug	50	342	5	815	10,224	20	0	0	1				1.80	9.0	poor, high water
17-Aug	101	443	10	1,021	11,245	20	0	0	1				1.80	9.0	fair to poor
18-Aug	185	628	0	218	11,463	5	0	1	3				1.70	10.0	fair
19-Aug	66	694	8	283	11,746	7	0	2	4				1.46	10.0	fair
20-Aug	16	710	10	232	11,978	6	0	1	0				1.36	9.0	fair to good
21-Aug	162	872	10	205	12,183	5	1	2	1				1.40	9.0	good
22-Aug	192	1,064	0	221	12,404	10	0	1	0				0.86	10.0	good
23-Aug	254	1,318	20	278	12,682	40	0	0	0				0.86	9.0	good
24-Aug	205	1,523	23	113	12,795	0	0	0	0				0.96	9.0	good pm, fair to poor
25-Aug	30	1,553	30	110	12,905	3	0	1	1				0.96	9.0	good
26-Aug	675	2,228	50	204	13,109	5	0	0	4				1.30	8.5	fair
27-Aug	1,009	3,237	40	111	13,220	3	0	0	5				1.30	8.0	fair
28-Aug	268	3,505	30	86	13,306	2	0	0	1				1.30	9.0	good
29-Aug	43	3,548	30	31	13,337	0	0	0	2				1.00	8.0	good
30-Aug	417	3,965	40	27	13,364	0	0	0	0				1.00	8.5	good
31-Aug	1,158	5,123	40	46	13,410	1	0	0	0				1.00	9.0	good
1-Sep	696	5,819	40	42	13,452	1	0	0	0				1.00	8.5	good to excellent
2-Sep	618	6,437	40	14	13,466	0	0	0	0			1	0.88	8.0	excellent
3-Sep	1,016	7,453	40	30	13,496	0	0	0	0				1.00	8.0	good
4-Sep	666	8,119	14	11	13,507	0	0	0	0			4	1.10	8.0	good
5-Sep	493	8,612	12	7	13,514	0	0	0	0				1.00	8.0	good
6-Sep	27	8,639	0	3	13,517	0	0	0	0				0.80	8.0	good
7-Sep	163	8,802	10	4	13,521	0	0	0	0				0.80	8.5	good
8-Sep	633	9,435	10	22	13,543	0	0	0	0			2	0.80	8.0	excellent
9-Sep	268	9,703	4	14	13,557	0	0	0	1			2	0.70	8.0	excellent

-continued-

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Coho				Chum			Water								Comments
		Number		Adults	Total	Number	Chinook	Pink	Sockeye	RBT	DV	WF	Stage	Temp.	
Date	Daily	Cum	Sampled	Daily	Cum	Sampled	Daily	Daily	Daily	Daily	Daily	Daily	(ft)	(C)	
10-Sep	75	9,778	0	5	13,562	0	0	0	0			1	0.66	7.0	excellent
11-Sep	52	9,830	0	3	13,565	0	0	0	0				0.66	7.0	excellent
12-Sep	160	9,990	0	2	13,567	0	0	0	1				0.56	7.0	excellent
13-Sep	672	10,662	20	3	13,570	0	0	0	0				0.60	7.0	excellent
14-Sep	93	10,755	0	5	13,575	0	0	0	0				0.60	6.0	excellent
15-Sep	4	10,759	0	0	13,575	0	0	0	0				0.54	6.0	excellent
16-Sep	0	10,759	0	7	13,582	0	0	0	0				0.48	4.0	excellent
17-Sep	0	10,759	0	1	13,583	0	0	0	0				0.40	3.5	excellent
18-Sep	0	10,759	0	0	13,583	0	0	0	0				0.36	4.0	excellent
19-Sep	0	10,759	0	1	13,584	0	0	0	0				0.35	4.0	excellent
20-Sep	6	10,765	0	1	13,585	0	0	0	0				0.31	3.5	excellent
21-Sep	112	10,877	5	3	13,588	0	0	0	2			4	0.30	3.5	excellent
22-Sep weir removed by noon, 250 counted down to Mil															
TOTAL	10,877	10,877	552	13,588	13,588	332	118	40	124	9	9	14			

APPENDIX I

Appendix I1.-Completed access projects for NCIMA, 2002 and 2003.

Location ^a		Project/Manager ^a	Cost	Completed
Non-Boating Projects				
1.	Maintenance of existing DSF access sites.	Toilets, waste removal, cleaning services, road grading and repairs, signage, and miscellaneous repairs.	\$44,500.00	March – Oct. 03
2.	Sheep Creek	Sheep Creek trail repair, utilized ¾ minus gravel, which was spread on trail.	\$130.00	Sept 03
3.	Florence Lake access trail and parking improvements.	Worked with MSB Public Works Dept. ROW and identified legal access and pull out/parking area to Florence Lake. Developed pad and footpath utilizing ½ chip and pit run gravel. Worked with adjacent property owners to mitigate trespass and address easement issues. Surveyor found original corner and BLM surveyed monument, reference and reset below grade for new trail work.	\$200.00 \$125.00	July 03
4.	Tigger Lake road repair.	Completed repairs of Tigger Lake road apron and posted stocked lake sign. Applied and obtained required permits (ADOT).	\$0.00	July- Aug 03
5.	Horseshoe Lake (Knik Goose Bay) area access trail.	Post survey completion, developed new legal access road for continued access to lake in order to resolve private land dispute. Div. of Wildlife Conservation was responsible for road construction costs, completed in fall 2002.	\$0.00	Nov 02
TOTAL			\$44,955.00	
Boating Projects				
1.	Maintenance of existing DSF access sites.	Toilets, waste removal, cleaning services, dredging, road grading and repairs, signage, and miscellaneous repairs.	\$19,400.00	March - Oct. 03
2.	Su Landing (Kashwitna) Boat ramp repair.	Removed concrete planks and excavated and dredged boat launch to improve launch pad angle, replaced concrete plank ramp. Repaired electrical problem.	\$72,000.00	Oct 02
3.	Talkeetna side channel maintenance.	Excavated mouth of side channel per permits to remove debris, which blocked the channels mouth as to increase the water flow and raise the water level at the boat launch. Coordinated with: DNR, MSB, COE, Habitat, FAA and DGC.	\$7,200.00	April 03 / Sept 03
4.	Little Susitna PUF operations.	Funded DPOR for 2002/2003 (FY03) maintenance and operations.	\$51,166.00 (FY03)	June 30, 2002 and June 30, Aug 02
5.	Little Susitna River kick plates.	Constructed and installed light penetrating backing plates on ADA and fishing platform stairwells.	\$0	
6.	Rabbit Slough access road and parking area improvements.	Repaired and developed the access road and parking pad/area with the additions of 180 cubic yards of gravel (#2 minus) in order to improve and maintain continued access. (COE, DNR Habitat & Kiewit Construction Co. Mitigation).	\$0.00 (just our time to coordinate)	August 03
7.	Coyote Lake access road improvements.	Repaired and developed the access road with the addition of 100 cubic yards of gravel (pit-run) in order to improve and maintain continued access. Dozer rental.	\$900.00	June 03
8.	Carpenter Lake access road improvements.	Repaired and developed the access road with the addition of 40 cubic yards of gravel (pit-run) in order to improve and maintain continued access.	\$200.00	July 03
9.	LSPUF fish cleaning table.	Designed, constructed, plumbed and installed fish cleaning table.	\$750.00	May 03
10.	Su Landing (Kashwitna) fish cleaning table.	Designed, constructed, and installed fish cleaning table.	\$750.00	June 03
11.	Finger Lake SRA ADA dock addition.	Additional dock section to be built spring 2003 by DPOR.	\$5,500.00	CIP FY03
TOTAL			\$158,360.8	

^a DPOR = Department of Natural Resources Division of Parks and Outdoor Recreation

COE = Core of Engineers

DSF = Division of Sport Fish

LSPUF = Little Susitna Public Use Facility

DWC = Division of Wildlife Conservation

DGC = Department Governmental Coordination

MSB = Mat Su Borough

ROW = Right of Way

FAA = Federal Aviation Administration

ADOT = Alaska Dept. of Transportation

DNR = Dept. of Natural Resources

APPENDIX J

Appendix J1.-Cooperative agreement for management and maintenance of the Little Susitna River Public Use Facility.

ADF&G COOP 89-024

Cooperative Agreement Between
Alaska Department of Natural Resources and
Alaska Department of Fish and Game for
Management and Maintenance of
Little Susitna River Public Use Facility

This agreement is made and entered into between the Department of Natural Resources, P.O. Box 10-7001, Anchorage, Alaska 99510, hereinafter called ADNR, and the Department of Fish and Game, P.O. Box 3-2000, Juneau, Alaska 99802, hereinafter referred to as ADF&G.

I. Purpose of Agreement

To cooperatively manage and maintain the Little Susitna Public Use Facility (LSPUF) for recreational boating, sport fishing, access to the state game refuge and other recreational uses.

II. Authority

ADF&G, pursuant to AS 16.05, has the authority to design and construct projects beneficial for the fish and game resources of the state; to provide public facilities to facilitate the taking of fish and game; to enter into cooperative agreements; to exercise administrative, budgeting, and fiscal powers; and to manage uses and activities on the Susitna Flats State Game Refuge (SFSGR).

ADNR, pursuant to AS 41.21, has the authority to provide for the supervision, development, and maintenance of public recreational land; and to provide clearinghouse services for other state agencies concerned with park and recreational matters.

III. Covenants of the Department of Fish and Game

ADF&G does hereby agree:

1. To construct a boat launch, parking area, and other facilities necessary to improve public recreational boating and sport fishing access to the lower Little Susitna River under the Federal Aid in Sport Fish Restoration program.
2. To contribute access program funds to defer the cost of site management and maintenance in the event that such costs exceed revenues from user fees. The annual amount of the funds shall not exceed the total cost shown in Attachment B.

IV. Covenants of the Department of Natural Resources

ADNR does hereby agree:

1. To operate and manage the site described in Attachment A for the primary purpose of providing public access to the Little Susitna River and the Susitna Flats State Game Refuge (SFSGR) for

recreational boating, sport fishing, and other recreational activities. No change in this use shall be made nor shall the site be closed to the public without the approval of ADF&G.

2. To perform all maintenance and management necessary to keep the access site shown in Attachment A open to the public on a seasonal basis. Services shall include public contact, law enforcement, trash collection, parking lot grading, cleaning of comfort stations, posting of signs, and other minor maintenance needed to keep the site clean and in a good state of repair.
3. To prepare an annual management plan detailing the services to be provided, staffing and equipment requirements, estimated costs, estimated revenue and proposed improvements. This management plan shall become a part of this agreement as Attachment B.
4. To account for and dispose of all user fees collected from the sites in accordance with OMB circular A-102. All fees shall be reviewed and approved by ADF&G prior to implementation. Current approved fees shall be shown in Attachment B.

V. It is mutually agreed that

1. This agreement shall remain in effect indefinitely and shall be renewed annually by revision of Attachment B. This agreement and all subsequent annual renewals shall be effective February 1 of the year shown on Attachment B and shall remain in effect through January 31 of the following year. Either department may terminate this agreement by providing written notice to the other at least 90 days in advance of the date on which termination is to become effective.
2. The LSPUF shall be managed in accordance with regulations contained in 5 AAC 95.515. These regulations apply only to that portion of the SFSGR designated as a management zone for the LSPUF.
3. Each department shall not assign, let, or sublet, either by grant or implication, the whole or any part of any site without the written consent of the other department. The rights and responsibilities vested in each department by this agreement shall not be assigned without the written consent of the other department.
4. ADF&G shall retain administrative control of the LSPUF. ADNR may make improvements on the site provided such improvements are compatible with the primary purpose of providing recreational boating and sport fishing access to the Little Susitna River. All proposed improvements shall be approved by ADF&G through the special area permit process prior to construction. ADNR shall obtain all applicable permits prior to the start of construction.
5. Amendments to this agreement may be proposed by either department, and shall become effective upon approval of both departments. Each department may modify this agreement to meet revised requirements for state or federal law, provided that such modifications shall not cause either department financial loss or commit unavailable staff and resources.
6. Agents and employees of each department shall act in an independent capacity and not as officers, employees, or agents of the other department in performance of this agreement.
7. To not discriminate or permit discrimination on the grounds of race, color, religion, national origin, ancestry, age or sex against any person or group of persons in any manner prohibited by

federal or state law or regulations promulgated thereunder. Each department recognizes the right of the other to take such action to enforce such covenant as it deems necessary or as it is directed pursuant to any federal or state law or regulation.

8. Nothing in this agreement shall be construed as obligating either department to expenditure of funds in excess of those herein agreed upon. In the event sufficient funds are not available to operate and maintain the site, ADNR may terminate this agreement with a seven day notice.
9. Nothing in this agreement transfers title or land jurisdiction other than set forth herein.
10. The failure of either department to insist in any one or more instances upon a strict performance by the other of any of the provisions, terms, covenants, reservations, conditions, or stipulations contained herein may not be considered as a waiver or relinquishment thereof for the future, but the same shall continue and remain in full force and effect, and no waiver by either department of any provision, term, covenant, reservation, condition, or stipulation herein may be deemed to have been made in any instance unless expressed in writing by the department.
11. Each department agrees that it will be responsible for its own acts and the results thereof, and each department shall not be responsible for the acts of the other department; and each department agrees it will assume to itself risk and liability resulting in any manner under this agreement.
12. No elected or appointed official shall be admitted to any share or part of the agreement or to any benefit that may arise therefrom.
13. Each party will comply with all applicable laws, regulations, and executive orders relative to Equal Employment Opportunity.
14. Nothing herein is intended to conflict with federal, state, or local laws or regulations. If there are conflicts, this agreement will be amended at the first opportunity to bring it into conformance with conflicting laws or regulations.
15. Policy and position announcements relating specifically to this cooperative program may be made only by mutual consent of the agencies.
16. This agreement is complete and has no other encumbrances, addenda, attachments, or amendments with the following exceptions:

Attachment A: Little Susitna Public Use Area Site Plan

Attachment B: Little Susitna Public Use Area Management Plan

Attachment A is not included in this report. Attachment B follows.

Attachment B

ACCESS SITE MAINTENANCE

LITTLE SUSITNA PUBLIC USE FACILITY

PROJECT F-13-M-20

SOUTHCENTRAL ALASKA

ALASKA DEPARTMENT OF FISH AND GAME

DIVISION OF SPORT FISH

1997

323

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Introduction

Construction of the Little Susitna Public Use Facility (PUF), under project F-13-D-6, provides access to the Little Susitna River. Initial clearing work and construction of one outhouse was completed in the fall of 1988. Construction on the remainder of the facilities was completed in June, 1990.

The facility needs regular maintenance to prevent vandalism and protect the access program's investment. This project will provide the funding that is needed to maintain and manage the facility.

Need

The need for the Little Susitna PUF is documented in the narrative for Project F-13-D-6, Little Susitna Boat Launch Development. This site provides the primary sport fishing access to the Little Susitna River. Although the facility was constructed to accommodate 70,000 angler-days of use annually, the

full potential of the site has never been realized. Angler use of the Little Susitna River is summarized in Table 1. Reliable records showing use of LSPUF are not available prior to the 1994 season.

Table 1. Angler-day use of the Little Susitna River.

<u>Year</u>	<u>Angler-days</u>
1989	54,798
1990	40,159
1991	50,838
1992	49,304
1993	42,249
1994	45,149
1995	41,119

The number of angler-days on the Little Susitna River during this seven year period fluctuates by almost 15,000. This variation in use reflects the relative run strengths of both king and silver salmon during this period and the timing of certain management techniques such as increasing bag limits and lifting bait restrictions. For instance, if lifting the bait restriction and increasing the bag limit for silver salmon happened to fall on a weekend during the peak of the run, significantly increased fishing pressure would occur compared to the same scenario happening on a weekday.

In considering the need for maintenance and management of the PUF, two factors must be taken into account. The first is the annual-use level and the second is how that use is distributed throughout this year. The annual-use level at the PUF is relatively high, but more importantly, use is concentrated on summer weekends particularly when the salmon runs are "in." Figure 1 shows use patterns for the 1996 season, which was interrupted by the Miller's Reach Fire. Table 2 summarizes all user groups at the facility during the 1994, 1995 and 1996 seasons.

A user data collection program was begun during the 1994 season. Adjustments were made in-season to ease data collection. Improvements to the system were incorporated into the 1995 data collection program based on problems encountered in analyzing the 1994 data.

Given a constant use rate, a site such as Little Susitna could be maintained and managed with little more than routine trash collection and cleanup. But with the concentrated use and resultant crowding that occurs, a much higher level of effort is necessary. In addition to keeping the site clean, an authoritative presence is needed to keep order and prevent vandalism.

The "Burma Road" site has been open to the public for many years and certain undesirable use patterns have developed. The area had been totally uncontrolled and rowdy behavior was common. A portion of the current user group still seems to resent improvement of the site and some continuing re-education of these individuals is necessary to make this site a quality experience for everyone.

The access program has made an investment of over \$1,000,000 in the Little Susitna PUF. A decision to simply leave this investment in the hands of the users without some means of control would not be prudent.

Objectives

1. To ensure that the Little Susitna PUF is a clean, safe, well-maintained public access site.
2. To protect the access program's investment in the Little Susitna PUF.
3. To establish a revenue program that will defray maintenance, management, and future improvement costs.

Expected Results and Benefits

This project will ensure that the results and benefits of the site improvements constructed under Project F-13-D-6, are obtained on a long-term basis.

Project Development

Agreement has been reached with the Department of Natural Resources (DNR), Division of Parks and Outdoor Recreation (DPOR) to maintain and manage the Little Susitna PUF. A management plan for July 1, 1997 through June 30, 1998, is included in Appendix A. A report for the 1996 season is also included with this document.

DPOR will treat the site in the same manner as units of the State Park System. The services they will provide are described in Appendix A. In addition to janitorial-type services, DPOR will also provide a deputized ranger for the site. In light of the past history of the site, an authoritative presence is necessary to maintain order.

Prior to freeze-up in the fall, the site is winterized to reduce over-winter damage from weather and vandals. Equipment such as the well and sanitary dump station is secured. The outhouses are pumped out but left open for use. During the winter months, DPOR will provide twice-weekly patrols of the site that include outhouse maintenance. There are a significant number of people who use the area during the winter for snowmachine riding, dog mushing, hunting, and other outdoor activities. DPOR has learned from experience that vandalism increases if an attempt is made to deny public use of outhouses during the winter. In this respect, winter patrols of the PUF and servicing of the outhouses are a measure designed to protect the facility rather than provide a service to the public.

The collection of fees through the 1993 season was accomplished primarily through the honor system and an "iron ranger." Problems with this approach developed and a citizens' work group was established in 1993 to recommend a new fee structure. This new fee system went into effect for the 1994 season. Part of this fee restructuring involved the construction and installation of a fee station at the entrance gate. This station was manned to collect the various fees beginning with the 1994 season. The fee station will continue in operation during the 1997 season. The current fee structure is shown in Appendix A.

The need for additional staff to man the fee station and improved service to the public on site by the Division of Parks and Outdoor Recreation are responsible for the overall increases in the cost to operate and maintain LSPUF. This increased cost has been offset somewhat through restructuring of fees and markedly improved public compliance with the fee structure because of the presence of fee station attendants. The unpredictable nature of fishermen, as shown in Table 1, further complicates the ability to predict the revenues which can be generated by the facility during any given year.

In addition to routine maintenance, one or two small projects are accomplished each year to correct or control situations that were not foreseen in the original design. This includes work such as additional barrier rocks, additional signage for parking and short-term repair of a hole at the end of the boat launch ramp.

NEPA Documentation

This project involves only maintenance and management activities that are categorically excluded from NEPA documentation requirements.

APPENDIX K

Appendix K1.-Habitat permit applications for the NCIMA, 2003.

Location	Name	Subject	Date Issued	Permit #	Date Expires	Dept
Susitna Flats State Game Refuge	General Public	Off-Road Vehicle Use	1/1/2003	FG03-II-GP06	12/31/2003	
Peters & Willow Creeks	General Public	Vehicle Stream Crossings	1/1/2003	FG03-II-GP03	12/31/2003	
Palmer Hay Flats State Game Refuge	General Public	Off-Road Vehicle Use	1/1/2003	FG03-II-GP14	12/31/2003	
Susitna Flats State Game Refuge	General Public	Camping and Protection of Restoration Sites	1/1/2003	FG03-II-GP15	12/31/2003	
Bodenburg,Jim,Knik,Friday Creeks	General Public	Vehicle Stream Crossings	1/1/2003	FG03-II-GP20	12/31/2003	
Statewide, any drainage	Distribution	F&G Spill Notification List	1/23/2003	Memorandum		
Susitna River (Tributary unspecified)	Hotchkin, Barbara/ARRC	Culvert Placement	1/7/2003	FG02-II-0018 A I	12/31/2003	
Spring Creek (Wasilla Ck drainage)	Fowlds, Scott/Kiewit Pacific Co	Glenn-Parks Interchange Temp Fill/Bridge Constr.	1/13/2003	FG02-II-0692	10/15/2004	
Kroto, Bear & Peters Creeks	Tatlow, Carl	Vehicle Stream Crossings	1/14/2003	FG03-II-0007	1/14/2005	
Goose Creek	Knobel, Julie/RK Custom LLC	Winter Stream Crossing	1/15/2003	FG03-II-0001	12/31/2003	
Goose Creek Tributary	Knobel, Julie/RK Custom LLC	Winter Stream Crossing	1/15/2003	FG03-II-0002	12/31/2003	
Susitna River	Arthur, Gregory/CEA	Vegetation Clearing (Beluga Electric Lines)	1/10/2003	FG02-II-0715	3/31/2003	
Rainbow Lake, Meadow Creek	Sharper, Fred	Fill Placement & Recreate Floating Wetland	1/13/2003	no permit yet	gave advice	
Lakes of Southcentral Alaska	General Public	Install/Remove Floating Docks Prev Auth	1/1/2003	FG03-II-GP30	12/31/2003	
Horseshoe Lake (Big Lake Area)	Hulbert, Paul/MSB Planning	Proposed Subdividing into four parcels	1/29/2003	Review		
Horseshoe Lake (Big Lake Area)	Zweifel, Brad	Dock Construction	3/12/2003	FG03-II-0111	3/31/2003	
Slough (Talkeetna River Drainage)	Magee, Susan/DGC	Modifying Wastewater Facility, Talkeetna	3/12/2003	Memorandum		
Knik River	Fowlds, Scott/Kiewit Pacific Co	Water Withdrawal 96,000 gal. Per day	3/10/2003	FG03-II-0105	10/31/2004	
Big Lake	Carleson, Robert	Dock Construction	3/12/2003	FG03-II-0035	3/31/2004	
Porman, Divide, Canyon Creeks	Silver, Dennis	Recreational Mining Suction Dredge	2/25/2003	FG03-4-0093	7/15/2003	
Peters & Willow Creeks	Silver, Dennis	Recreational Mining Suction Dredge	2/25/2003	FG03-II-5092	7/15/2003	
Little Su River & Cache Creek	Embs, Theodore	Recreational Mining Suction Dredge	3/18/2003	FG03-II-0152	7/15/2003	
Peters, Cottonwood, Bird Creek	Bates, Tommy	Recreational Mining Suction Dredge	3/10/2003	FG03-II-0120	7/15/2003	
Indian Creek	Jandreau, Rick/DOF	Forest Practice Notification	3/19/2003	Memorandum		
Cottonwood Creek	Sanner, Carol/DOT	Culvert Modification	3/19/2003	FG03-II-0138	12/31/2004	
Little Susitna River	Morris, Mike/DNR	Fishing Platform Installation	3/12/2003	FG03-II-0015	8/15/2003	
Matanuska River	Pitt, Tom/Quality Asphalt	Stream Crossing	3/24/2003	FG03-II-0171	4/15/2003	
Big Lake	Quintavell, Keith/MEA	Submerged Utility Line Installation	3/26/2003	FG03-II-0074	12/31/2003	
Busch Creek	Titchenal, Robert	Placer Mining	3/28/2003	FG03-II-0156	Not indicated	
Lake Creek	Ellis, Edward	Placer Mining	3/28/2003	FG03-II-0114	12/31/2003	
Peters Creek	Wolff, Gordon	Stream Crossing & Placer Mining	3/13/2003	FG03-II-0117	12/31/2004	
Ivan River (SFSGR)	Biewlawski, Patty/Unocal Ak	Culvert Installation	3/17/2003	FG03-II-0041	12/31/2003	
Flat Lake	Quintavell, Keith/MEA	Submerged Utility Line Installation	3/6/2003	FG03-II-0039	12/31/2003	
Flat Lake	James, Bob	Dock Construction	3/3/2003	FG02-II-0663	3/31/2004	
Big Lake	Elsworth, John	Dock Construction	3/3/2003	FG03-II-0056	3/31/2004	
Wasilla Lake	Dykman, Kevin	Dock Construction/Addition	3/3/2003	FG03-II-0032	3/31/2004	
Anna Lake	Bailey, Bonnie/MTA	Submerged Utility Line Placement	3/3/2003	FG03-II-0023	Not indicated	
Cache Creek	Lee, Winona & Kenneth A.	Placer Mining and Vehicle Ford	2/21/2003	FG03-II-0019	1/1/2005	
Big Lake	O'Neil, Mike c/o Ron LaVigne	Vehicle Operations-Frozen Waters of Big Lake	2/14/2003	FG03-II-0004	3/31/2004	
Rainbow Lake	Perrin, Don/OMB DGC	Wanted to Discharge Fill into Wetlands	2/27/2003	Memorandum		
Clam Gulch Critical Habitat Area	Brudie, Nina/OMB DGC	Onshore & Offshore 3D Seismic Exploration	1/28/2003	Memorandum	5/15/2003	

-continued-

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Location	Name	Subject	Date Issued	Permit #	Date Expires	Dept
Big Lake	Sledge, Bill	Dock Construction	2/27/2003	FG03-II-0073	3/31/2004	
Flat Lake	Smith, Ken	Dock Construction	2/26/2003	FG03-II-0020	4/15/2004	
Big Lake	Osgood, Neal	Dock Construction	2/27/2003	FG02-II-0720	3/31/2004	
Walby Lake	McGhan, Tim/Const& Storage	Dock Construction	2/26/2003	FG03-II-0094		
Talkeetna River	Cyr, Paul/F&G	Channel Excavation	3/3/2003	FG02-II-0661	2/28/2004	
Peters & Willow Creeks	Reed, Gene	Recreational Mining Suction Dredge	2/24/2003	FG03-II-0085	7/15/2003	
Peters & Cache Creeks	Buzby, Richard	Recreational Mining Suction Dredge	2/14/2003	FG03-II-0068	7/15/2003	
Peters Creek	Ferguson, Kevin	Recreational Mining Suction Dredge	2/24/2003	FG03-II-0089	7/15/2003	
Poorman, Divide & Canyon Creeks	Reed, Gene	Recreational Mining Suction Dredge	2/24/2003	FG03-II-0086	7/15/2003	
Kalmbach Lake	Hulbert, Paul/MSB Planning	Preliminary Plat - Master Plan w/Variance	1/22/2003	Recommendation		
Spring Creek (Wasilla Ck drainage)	Fowlds, Scott/Kiewit Pacific Co	Glenn-Parks Interchange, Bridge Construction	1/27/2003	FG03-II-0028	4/15/2003	
Nancy Lake	Cray, Mike	Dock Addition	2/20/2003	FG03-II-0063	3/31/2004	
Nancy Lake	Gamel, Bill	Dock Construction	2/13/2003	FG03-II-0577	3/31/2004	
Horseshoe Lake	Hulbert, Paul/MSB Planning	Easement Vacation Petition	2/20/2003	Recommendation		
Fish Creek	Raymond, Rick/DOT	Culvert Installation	2/21/2003	FG02-II-0306 (AII)	12/31/2004	
Dynamite Slough (B-Su)	Arthur, Gregory/CEA	Transmission Line Tower Structures	3/4/2003	FG02-II-0641 (AI)	4/5/2003	
Wasilla Lake	Lundt, Kris	Dock Construction	2/27/2003	FG03-II-0072	3/31/2004	
Big Lake	Quintavell, Keith/MEA	Submerged Utility Line Placement	2/27/2003	FG03-II-0014	10/31/2003	
Caribou Ck & Matsu River	General Public	Recreational Placer Mining	1/1/2003	FG03-II-GP04	12/31/2003	
Larson Creek	General Public	Vehicle Stream Crossings	1/1/2003	FG03-II-GP25	7/15/2003	
Little Susitna River	General Public	Organized Group Assembly	1/1/2003	FG03-II-GP02	12/31/2003	
Southcentral Alaska	General Public	Removal of Beaver Dams by Hand	1/1/2003	FG03-II-GP27	9/30/2003	
Matanuska River	Dudley,Tim/Quality Asphalt Paving	Temporary Bridge & Conveyor Construction	4/18/2003	FG03-II-0244	7/15/2005	
Susitna Flats State Game Refuge	Vogt, James	Personal Cabin Usage, since 1985	4/25/2003	FG85-II-0733 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Yuknis, Leonard	Personal Cabin Usage, since 1985	4/25/2003	FG85-II-0740 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Compton, Larry	Personal Cabin Usage, since 1985	4/24/2003	FG85-II-0741 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Lambe, John	Personal Cabin Usage, since 1985	4/24/2003	FG85-II-0457 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Bowser, Steven	Personal Cabin Usage, since 1985	4/24/2003	FG85-II-0775 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Moss, James	Personal Cabin Usage, since 1985	6/30/2003	FG85-II-0660 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	MacRae, James	Personal Cabin Usage, since 1985	6/30/2003	FG87-II-0331 (AIII)	6/30/2009	F&G
Peters & Cottonwood Creeks	Jacobowski, John	Recreational Mining Suction Dredge	5/5/2003	FG03-II-0003	7/15/2003	DNR
Peters Creek & Little Su River	Markle, John	Recreational Mining Suction Dredge	5/7/2003	FG03-II-0009	7/15/2003	DNR
Chuitna River	Askin, Vistoria/CI Spill Prev Response	Boom Deployment & Spill Simuarion	5/9/2003	FH03-II-0302	12/31/2003	DNR
Fish Lake	Lee, Susan/MSB	Request for Variance from Setback Requirements	5/14/2003	Recommendation		F&G
Susitna River Tributary Streams	Hotchkin, Barbara/ARRC	Culvert Placement	5/16/2003	Permit Not Required		DNR
Susitna Flats State Game Refuge	Walsh, Stephen	Personal Cabin Usage, since 1985	5/15/2003	FG85-II-0612 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Kelly, Dennis	Cabin Maintenance	6/15/2003	FG03-II-0269	12/31/2003	F&G
Little Susitna River Tributary	Runyon, Quantum Investments LLC	Bridge Installation	5/14/2003	FG03-II-0037	12/31/2003	DNR
Caribou Creek	Elliott, Brian/DOT	Bridge Construction	4/24/2003	FG02-II-0062 (AI)	12/31/2004	F&G
Redoubt Bay Critical Habitat Area	Bangerter, Kent	Advised to get a permit for his new boat/Storage	4/21/2003	hasn't applied yet		F&G
Redoubt Bay Critical Habitat Area	Stack, Alex	Advised to get a permit for his new boat/Storage	4/21/2003	hasn't applied yet		F&G

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Location	Name	Subject	Date Issued	Permit #	Date Expires	Dept
Polanchek Creek (B-Su stream)	Hotchkin, Barbara/ARRC	Bridge Replacement	4/21/2003	FG03-II-0103	4/15/2004	F&G
Susitna Flats State Game Refuge	Braund, Stephen	Personal Cabin Usage, since 1985	4/23/2003	FG85-II-0630 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	McCurtain, Bruce	Personal Cabin Usage, since 1985	4/23/2003	FG87-II-0334 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Goocey, Albert	Personal Cabin Usage, since 1985	4/23/2003	FG85-II-0664 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Bese, Richard	Personal Cabin Usage, since 1985	4/23/2003	FG85-II-0749 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Blatchford, Joel	Personal Cabin Usage, since 1985	4/23/2003	FG85-II-0747 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Feriani, Ralph	Personal Cabin Usage, since 1985	4/23/2003	FG85-II-0727 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Ambruz, Gary	Personal Cabin Usage, since 1985	4/23/2003	FG85-II-0637(AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Talcott, Jodi	Personal Cabin Usage, since 1985	4/23/2003	FG86-II-0132 (AIII)	6/30/2009	F&G
Peters, Cache, Matsu, Knik & L-Su R	Bates, Tommy	Recreational Mining Suction Dredge	4/9/2003	FG03-II-0260	7/15/2003	F&G
Fish Creek (Big Lake South Road)	DeLey, Rae/ DOT	Test Hole Drill,10 holes 250 gal per hole)	4/18/2003	FG03-II-0114	12/31/2003	F&G
Red Creek and Joe Creek	Boehne, Roland	Placer Mining	5/5/2003	FG03-II-0067		DNR
Chunilna & Unnamed Creeks	Pepperd, Greg	Equipment Ford	4/22/2003	FG03-II-0213	7/15/2003	F&G
Landslide Creek	Welsh, Leland	Recreational Mining Suction Dredge	4/17/2003	FG03-II-0271		F&G
Peters, Cache, Matsu, Knik & L-Su R	Oldson, Richard	Recreational Mining Suction Dredge	4/16/2003	FG03-II-0264	7/15/2003	F&G
Peters, Cache, Matsu, Knik & L-Su R	Welsh, Leland	Recreational Mining Suction Dredge	4/17/2003	FG03-II-0272	7/15/2003	F&G
Willow Creek	Bates, Tommy	Recreational Mining Suction Dredge	4/11/2003	FG03-II-0259	7/15/2003	F&G
Peters, Cache, Matsu, Knik & L-Su R	Marks, douglas	Recreational Mining Suction Dredge	4/11/2003	FG03-II-0246	7/15/2003	F&G
Byers Creek	Lee, Susan/MSB	Special Land Use Permit	5/22/2003	Recommendation		F&G
Susitna Flats State Game Refuge	Hulbert, Ward	Personal Cabin Usage, since 1985	5/19/2003	FG85-II-0608 (AIII)	6/30/2009	F&G
Cottonwood Creek	Cardwell, Robert	Bridge Replacement	5/19/2003	FH03-II-0231	12/31/2003	DNR
Big River Lakes (RBCHA)	Stack, Alex	Recreational Boat Storage	5/15/2003	FG03-II-0310	5/15/2004	F&G
Little Susitna River	Robertson, Stephen	Recreational Mining Suction Dredge	5/21/2003	FH03-II-0062	7/15/2003	DNR
Big River Lakes (RBCHA)	Johnson, Tom/High Adv Air Charter	Commercial Recreational Boat Storage	4/11/2003	FG02-II-0378 (AI)	5/1/2004	F&G
Chulitna River Floodplain	Wightman, Patricia/DOT	Geotechnical Survey	5/21/2003	FH03-II-0059		DNR
Peters, Cache, Matsu, Knik & L-Su R	Dittbrender, Wilbur	Recreational Mining Suction Dredge	4/11/2003	FG03-II-0250	7/15/2003	F&G
Peters, Cache, Matsu, Knik & L-Su R	Shaw, Foster	Recreational Mining Suction Dredge	4/14/2003	FG03-II-0254	7/15/2003	F&G
Peters, Cache, Matsu, Knik & L-Su R	Miller, Gerald	Recreational Mining Suction Dredge	4/11/2003	FG03-II-0252	7/15/2003	F&G
Peters, Cache, Matsu, Knik & L-Su R	Fulton, Michael	Recreational Mining Suction Dredge	4/10/2003	FG03-II-0239	7/15/2003	F&G
Dynamite Slough (B-Su)	Arthur, Gregory/CEA	Relocating, replacing 2 Transm. Line Towers	4/1/2003	FG02-II-0641 (AII)	4/15/2003	F&G
Spring Creek (Wasilla Ck drainage)	Fowlds, Scott/Kiewit Pacific Co	Subexcavating Retaining Wall #7	4/1/2003	FG03-II-0200	12/31/2003	F&G
Susitna River	Hotchkin, Barbara/ARRC	Embankment Maintenance	3/28/2003	FG03-II-0123	4/1/2005	F&G
Quartz, Crosswind, Porcupine Butte	Means, Kathy/DNR	Cabin Site Staking Areas - Preliminary Finding	4/2/2003	Memorandum		F&G
Montana Creek	Pysz, Kenneth	Recreational Mining Suction Dredge	3/20/2003	FG03-II-0040	7/15/2003	F&G
Cottonwood & Poorman Creeks	Jameson, Dennis	Recreational Mining Suction Dredge	4/1/2003	FG03-II-0209	7/15/2003	F&G
Red & Joe Creeks	Boehne, Roland	Placer Mining	4/4/2003	Recommendation		F&G
Chijuk Creek	Broneske, Debby/MSB	Culvert Placement	4/3/2003	FG03-II-0194		F&G
Caribou Ck & Matsu River	Dudley, Tim/Quality Asphalt Paving	Water Withdrawal, 75,000 gal per day	4/7/2003	FG03-II-0134	12/31/2004	F&G
Big Lake	Wilson, Wade/MSB	Public Right-of-Way Construction	4/7/2003	Comment Only		F&G
Peters, Cache, Matsu, Knik & L-Su R	Dobbins, John	Recreational Mining Suction Dredge	4/7/2003	FG03-II-0226	7/15/2003	F&G
Moose Creek	Oswalt, Michael	Recreational Placer Mining	4/8/2003	FG03-II-0026	7/15/2003	F&G

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Location	Name	Subject	Date Issued	Permit #	Date Expires	Dept
Peters & Willow Creeks	Marks, douglas	Recreational Placer Mining	4/4/2003	FG03-II-0223	7/15/2003	F&G
Peters & Peterson Creeks	Smith, Lois	Recreational Placer Mining	4/9/2003	FG03-II-0182	12/31/2003	F&G
Susitna River	Hotchkin, Barbara/ARRC	Embankment Maintenance	4/16/2003	FG03-II-0123 (AI)	4/1/2005	F&G
Peters, Cache, Matsu, Knik & L-Su R	Jones, K C	Recreational Mining Suction Dredge	4/24/2003	FG03-II-0291	7/15/2003	F&G
Peters, Cache, Matsu, Knik & L-Su R	Hopkins, Rodney	Recreational Mining Suction Dredge	4/23/2003	FG03-II-0287	7/15/2003	F&G
Peters, Cache, Matsu, Knik & L-Su R	Cassidy, Kaleb	Recreational Mining Suction Dredge	4/21/2003	FG03-II-0278	7/15/2003	F&G
Peters, Cache, Matsu, Knik & L-Su R	Scheckler, Joseph & Belinda	Recreational Mining Suction Dredge	4/14/2003	FG03-II-0284	7/15/2003	F&G
Kustatan River	Johnson, High Adventure Air Charter	Commercial Recreational Boat Storage	4/17/2003	FG02-II-0409 (AI)	5/1/2004	F&G
Big River Lakes (RBCHA)	Bennett, Rex	Recreational Boat Storage	4/21/2003	FG02-II-0380 (AI)	5/1/2004	F&G
MillsTwin,Camp,Lake,PetersCk,Kahiltna R	Bartel, Gordon	Placer Mining	4/24/2003	FG02-II-0442 (AI)	4/22/2005	F&G
Susitna Flats State Game Refuge	Grendahl, Marvin	Personal Cabin Usage, since 1985	4/25/2003	FG86-II-0241 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Walters, Ben	Personal Cabin Usage, since 1985	4/25/2003	FG85-II-0633 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Johns, James	Personal Cabin Usage, since 1985	4/25/2003	FG85-II-0620 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Starn, Glen	Personal Cabin Usage, since 1985	4/28/2003	FG85-II-0663 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Jensen, Kenneth	Personal Cabin Usage, since 1985	4/25/2003	FG91-II-0483 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Hilliker, Ben	Personal Cabin Usage, since 1985	4/25/2003	FG85-II-0607 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Kelly, Dennis	Personal Cabin Usage, since 1985	4/25/2003	FG85-II-0635 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Seeley, James	Personal Cabin Usage, since 1985	5/29/2003	FG85-II-0614 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Reilly, Patrick	Personal Cabin Usage, since 1985	5/29/2003	FG85-II-0742 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Ramstad, Phillip	Personal Cabin Usage, since 1985	5/29/2003	FG85-II-0621 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Phillips, Steve	Personal Cabin Usage, since 1985	5/29/2003	FG85-II-0626 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Mans, Bill & DeVeaux, Leroy	Personal Cabin Usage, since 1985	5/29/2003	FG91-II-0484 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	McCain, Robert	Personal Cabin Usage, since 1985	5/29/2003	FG85-II-0668 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Sonnentag, Charles	Personal Cabin Usage, since 1985	5/29/2003	FG85-II-0672 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Stanek, Ronald	Personal Cabin Usage, since 1985	5/29/2003	FG85-II-0622 (AIII)	6/30/2003	F&G
Susitna Flats State Game Refuge	Mulholland, John	Personal Cabin Usage, since 1985	5/29/2003	FG85-II-0638 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Sage, Charles	Personal Cabin Usage, since 1985	5/29/2003	FG85-II-0739 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Larsen, Bradley	Personal Cabin Usage, since 1985	5/29/2003	FG85-II-0697 (AIII)	6/30/2009	F&G
Susitna Flats State Game Refuge	Mitchell, David	Personal Cabin Usage, since 1985	5/29/2003	FG85-II-0738 (AIII)	6/30/2009	F&G
TBSGR (McArthur River)	Sommerville, Virginia & Eagley, Ron	Off-Road Vehicle Use	5/27/2003	FG03-II-0611	11/30/2003	F&G
Trading Bay State Game Refuge	Wirschem, Michael	Personal Cabin Usage, since 1985	6/25/2003	FG85-II-0785	6/30/2009	F&G
Palmer Hay Flats State Game Refuge	Bush, Robert D.	Personal Cabin Usage, since 1985	7/1/2003	FG85-II-0798	6/30/2009	F&G
Big River Lakes	Machado, David	Personal Sport Fishing & Wildlife	6/27/2003	FG03-II-0326	5/1/2004	F&G
Susitna Flats State Game Refuge	Johnstone, Karl	Personal Cabin Usage, since 1985	7/7/2003	FG85-II-0659	6/30/2009	F&G
Susitna Flats State Game Refuge	Frelin, Leo T.	Personal Cabin Usage, since 1985	7/7/2003	FG85-II-0624	6/30/2009	F&G
Trading Bay Staate Game Refuge	Pratt, Henry S.	Personal Cabin Usage, since 1985	7/7/2003	FG85-II-0799	6/30/2009	F&G
Trading Bay State Game Refuge	Svendsen, Greg	Personal Cabin Usage, since 1985	6/25/2003	FG85-II-0802	6/30/2009	F&G
Trading Bay State Game Refuge	Hendrickson, John W.	Personal Cabin Usage, since 1985	6/25/2003	FG85-II-0781	6/25/2003	F&G
Big River Lakes	Helfer, Alan C.	Year Round Storage	6/6/2003	FG03-II-0313	5/1/2004	F&G
Kustatan River	Talon Air Service, Inc.	Year Round Storage	6/6/2003	FG03-II-0312	5/1/2004	F&G
Susitna Flats State Game Refuge	Appel, Keith K.	Personal Cabin Usage, since 1985	6/17/2003	FG85-II-0696	6/30/2009	F&G

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Location	Name	Subject	Date Issued	Permit #	Date Expires	Dept
Little Susitna River	Kaicic, Chuck	Withdraw Water From Little Su	6/26/2003	FG03-II-0317		F&G
Palmer Hay Flats State Game Refuge	Bush, Robert D.	Personal Cabin Usage, since 1985	6/26/2003	FG85-II-0798	6/30/2009	F&G
Indian River	Hotchkin, Barbara/ARRC	Trestle Replacement & Wetland Fill	6/20/2003	FH03-II-0113	5/15/2004	DNR
Chijuk Creek	Ellis, Edward E.	Bridge Removal	6/26/2003	FH03-II-0124	7/15/2004	DNR
Big River Lakes	Davis, John R.	Year Round Storage	6/9/2003	FG03-II-0322	5/1/2004	F&G
Big River Lakes	Jensen, James	Year Round Storage	6/6/2003	FG03-II-0319	5/1/2004	F&G
Mud Lake	Powers, Frank	Dock Construction	6/10/2003	FH03-II-4006	8/31/2003	DNR
Big Lake	Cetinelik, Atilla	Dock Construction	6/3/2003	FH03-II-0071	3/31/2004	DNR
Big River Lakes	Clore, Mark R.	Recreational Boat Storage	05-142003	FG03-II-0309	5/14/2004	F&G
Matanuska River	Goforth, Glenn R.	Recreational Placer Mining	6/4/2003	FH03-II-0017	12/31/2003	DNR
Big River Lakes	DeSaw, Lance	Commercial Recreational Boat Storage	6/4/2003	FG03-II-0314	6/30/2004	F&G
Susitna Flats State Game Refuge	Renk, Jim	Personal Cabin Usage, since 1985	5/22/2003	FG85-II-0774	6/30/2009	F&G
Trading Bay State Game Refuge	Sommerville, Virginia	Off-Road Vehicle Use	5/27/2003	FG03-II-0611	11/30/2003	F&G
Big River Lakes	Schmid, David J.	Recreational Boat Storage	5/20/2003	FG03-II-0316	5/20/2004	F&G
Trading Bay State Game Refuge	Svendsen, Greg	Personal Cabin Usage, since 1985	6/4/2003	FG85-II-0802	6/30/2009	F&G
Trading Bay State Game Refuge	Wirschem, Michael	Personal Cabin Usage, since 1985	6/4/2003	FG85-II-0785	6/30/2009	F&G
Baker Farm Road	Little Bear Services	Culvert Placement	6/24/2003	FH03-II-0109		DNR
Trading Bay State Game Refuge	Hendrickson, John W.	Personal Cabin Usage, since 1985	6/4/2003	FG85-II-0781	6/30/2009	F&G
SouthCentral Alaska	Jerkovich, Joe	Placer Mining	6/2/2003	FH03-II-0074	7/15/2003	DNR
Chijuk Creek	Lord, Ronald	Vehicle Stream Ford Denial	6/2/2003	FH03-II-0047	7/15/2003	DNR
SouthCentral Alaska	Bates, Brian F.	Placer Mining	6/2/2003	FH03-II-0073	7/15/2003	DNR
SouthCentral Alaska	Hoya, Charles	Placer Mining	6/18/2003	FH03-II-0105	7/15/2003	DNR
SouthCentral Alaska	Garrison, Sylvester J.	Placer Mining	6/9/2003	FH03-II-0089	7/15/2003	DNR
SouthCentral Alaska	Seaman, Max	Placer Mining	6/10/2003	FH03-II-0092	7/15/2003	DNR
SouthCentral Alaska	De Haven, Wade	Placer Mining	6/17/2003	FH03-II-0101	7/15/2003	DNR
SouthCentral Alaska	Hopkins, Rodney	Placer Mining	6/19/2003	FH03-II-0111	7/15/2003	DNR
SouthCentral Alaska	Schaerer, Richard & Raymond	Placer Mining	6/20/2003	FH03-II-0115	7/15/2003	DNR
SouthCentral Alaska	Derrick, Diamond & Derrick	Placer Mining	7/7/2003	FH03-II-0135	7/15/2003	DNR
SouthCentral Alaska	Shults, Roy H.	Placer Mining	7/11/2003	FH03-II-0142	7/15/2003	DNR
SouthCentral Alaska	Coppock, Dwight	Placer Mining	7/10/2003	FH03-II-0140	7/15/2003	DNR
SouthCentral Alaska	Hatch, David & Isaac	Placer Mining	7/9/2003	FH03-II-0073	7/15/2003	DNR
SouthCentral Alaska	Vandever, Martin, Campbell, Jim, Vorn	Placer Mining	6/27/2003	FH03-II-0128	7/15/2003	DNR
Rachael Creek	Johnson, Bruce & Glen	Vehicle Fording	7/18/2003	FH03-II-0146	12/31/2003	DNR
Trading Bay State Game Refuge	Feller, Jan H.	Personal Use Cabin	7/7/2003	FG85-II-0804	6/30/2009	F&G
Big Rivers Lakes	Thomson, Peter	Recreational Boat Storage	7/2/2003	FG03-II-0325	5/1/2004	F&G
Trading Bay State Game Refuge	Rasmuson, Edward	Personal Use Cabin	7/3/2003	FG85-II-0782	6/30/2009	F&G
Beluga River	Seaberg, Stewart	Temporary Water Use Permit	6/13/2003	TWUP A2003-31		DNR
Beluga River	Bettis, Patricia	Temporary Water Use Permit	6/13/2003	TWUP A2003-31		DNR
Susitna Exploration License Area	Ott, Alvin G.	Evaluate Exploration Proposal	6/11/2003			
Susitna Exploration License Area	Hansen, James	Evaluate Exploration Proposal	5/21/2001			
Nancy Lakes	Mc Roberts, Pat	Submerge Utility Line	6/10/2003	FH03-II-0036	12/31/2003	DNR

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Location	Name	Subject	Date Issued	Permit #	Date Expires	Dept
Susitna River	Hotchkin, Barbara/ARRC	Embankment Maintenance	7/25/2003	FG03-II-0123	7/24/2005	DNR
Willow Creek	Call, Troy	Bridge Construction	7/24/2003	FH03-IV-4017	11/30/2003	DNR
Blodgett Lake	Glenn, Becky	Submerge Utility Line	7/22/2003	FH03-IV-4015	9/30/2003	DNR
Nancy Lakes	Glenn, Becky	Submerge Utility Line	7/22/2003	FH03-IV-4014	9/30/2003	DNR
Lower Road	Kaucic, Chuck	Culvert Installation	7/24/2003	FH03-IV-4013	8/31/2003	DNR
Deadhorse & Chulitna River	Hotchkin, Barbara/ARRC	Bridge & Embankment Maintenance	7/18/2003	FH03-II-4012	8/30/2003	DNR
Loon Song Lake	Hart, David	Dock Installation	7/24/2003	FH03-II-0153		DNR
McNeil River State Game Sanctuary	Gerken, Angie	Commercial Recreational Boat Storage	6/10/2003	FG03-II-0318	5/1/2004	F&G
Martin Creek	Strandberg, Baerent	Recreational Placer Mining	7/29/2003	FG03-II-0160		DNR
Kahiltna River	Griffin, Daniel P.	Material Extraction	8/12/2003	FG02-II-0567	9/23/2004	DNR
Caribou Ck & Matsu River	Elliott, Brian	Bridge Construction	8/14/2003	FG02-II-0062	12/31/2004	DNR
Drift River	Askin, Victoria	Boom Deployment for Training Purposes	8/12/2003	FG04-II-0009	8/30/2003	F&G
Susitna River Tributary	Hotchkin, Barbara/ARRC	Culvert Placement	8/12/2003	FG02-II-0018	12/31/2004	DNR
Wasilla Creek	Schachle, Ted	All-Terrain Vehicle Operation	8/7/2003	FH03-IV-4022	9/30/2003	DNR
Kings River	Nygard, Chance	Operate Wheeled Backhoe	7/25/2003	FH03-IV-4016	9/30/2003	DNR
Willow Creek	Call, Troy	Bridge Construction	7/24/2003	FH03-IV-4017	11/30/2003	DNR
Flat Lake	Glenn, Becky	Submerge Utility Line	8/7/2003	FH03-IV-4018	9/30/2003	DNR
Little Horseshoe Lake	Glenn, Becky	Submerge Utility Line	8/7/2003	FH03-IV-4020	9/30/2003	DNR
Larson Creek	Kusche, Ben	Operate John Deere 450 Tracked Bulldozer	8/7/2003	FH03-IV-4021	10/31/2003	DNR
Susitna River	Hicks, Stephen	Maintenance Dredging	8/25/2003	FH03-II-0181	12/31/2003	DNR
Susitna Flats State Game Refuge	Woodland, William	Personal Use Cabin	8/28/2003	FG85-II-0751	6/30/2009	F&G
Dry Creek	Holler, Leo	Bridge Construction	8/26/2003	FG02-II-0223	6/30/2005	DNR
Kustatan River	Johnson, High Adventure Air Charter	Commercial Recreational Boat Storage	8/28/2003	FG02-II-0409	5/1/2004	F&G
Little Susitna River	Cogdill, Larry D.	Bridge Construction	9/3/2003	FG03-IV-4028	8/31/2004	DNR
Kustatan River	Froeschle, Jerry	Recreational Boat Storage	8/6/2003	FG04-II-0007	5/1/2004	DNR
Redoubt Bay	Askin, Victoria	Boom Deployment for Training Purposes	8/20/2003	FG04-II-0005	8/30/2003	F&G
Trading Bay State Game Refuge	Hickel, Donald	Personal Use Cabin	8/18/2003	FG85-II-0806	6/30/2009	F&G
Susitna Flats State Game Refuge	Conover, Dale L.	Personal Use Cabin	8/18/2003	FG85-II-0613	6/30/2009	DNR
Susitna Flats State Game Refuge	Morris, B. Nina	Personal Use Cabin	8/18/2003	FG85-II-0636	6/30/2009	DNR
Little Willow Creek	Schachle, Ted	Operate All-Terrain Vehicle	8/8/2003	FH03-IV-4-23		DNR
Big Lake	Glenn, Becky	Submerge Utility Line	8/19/2003	FH03-IV-4024	5/31/2004	DNR
Wasilla Creek	Kopsack, Lance R.	Operate All-Terrain Vehicle	8/21/2003	FH03-IV-4025	9/30/2003	DNR
Susitna Flats State Game Refuge	Arthur, Gregory H.	Vegetation Clearing	9/5/2003	FG04-II-0010	3/31/2004	F&G
Long Lake	Black, Darrell	Dock Construction	9/8/2003	FH03-IV-4032	9/30/2004	DNR
Big Lake	Thomas, William J.	Dock Construction	9/8/2003	FG03-IV-4033	8/31/2004	DNR
Big Lake	Glenn, Becky	Submerge Utility Line	9/9/2003	FH03-IV-4035	5/31/2004	DNR
Palmer Hay Flats State Game Refuge	Joy, Skip	Proposed Mitigation Plan	9/17/2003	FH-03-IV-4039		DNR
Settlement Avenue	Kaucic, Chuck	Culvert Replacement and Bioengineering Restor	9/26/2003	FH03-IV-4045	4/30/2004	DNR
Trading Bay State Game Refuge	Laughlin, Kay	Iliamna Gas Exploration Well No. 2	9/26/2003	AK0309-020G		F&G
Susitna Flats State Game Refuge	Gay, Kirk D.	Personal Use Cabin	10/7/2003	FG85-II-0640	6/30/2009	F&G
Trading Bay State Game Refuge	Ehm, Arlen	Iliamna Gas Exploration Well No. 2	10/8/2003	FG04-II-0012	3/31/2004	F&G

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Location	Name	Subject	Date Issued	Permit #	Date Expires	Dept
Trading Bay State Game Refuge	Ehm, Arlen	Iliamna Gas Exploration Well No. 2	10/8/2003	FG04-II-0012	3/31/2004	F&G
Matanuska River	Scott, Robert	Dike Construction & Revetment Maintenance	10/24/2003	FH03-IV-4059	12/31/2004	DNR
Matanuska River	Dudley, Tim/Quality Asphalt Paving	Material Extraction	10/24/2003	FH03-IV-4084	12/31/2004	DNR

ADNR Alaska Dept. Natural Resources

ARRC Alaska Railroad Corp.

B-Su Susitna River

CEA Chugach Electric Association

CIAA Cook Inlet Aquaculture Association

CIPC Cook Inlet Pipeline Company

DGC Division of Governmental Coordination

DNR Department of Natural Resources

DOF Division of Forestry

DOT Department of Transportation

F&G Fish and Game

GBSGR Goose Bay State Game Refuge

H&R Habitat and Restoration

L-Su Little Susitna River

MEA Matanuska Electric Assoc.

MSB Mat-Su Borough

MTA Matanuska Telephone Assoc.

OMB Office of Management and Budget

QAP Quality Asphalt and Paving

RBCHA Redoubt Bay Critical Habitat Area

SFSGR Susitna Flats State Game Refuge

TBSGR Trading Bay State Game Refuge

US EPA U.S. Environmental Protection Agency

USFWS U.S. Fish and Wildlife Service

APPENDIX L

Appendix 11.-Age, sex and length composition of sockeye salmon sampled at the Fish Creek weir, 2003.

	Age Group							Total
	1.1	1.2	2.1	1.3	2.2	1.4	2.3	
Males	269	13,858	269	19,912	6,189	135	1,615	42,247
Percent	0.29	15.01	0.29	21.57	6.71	0.15	1.75	45.77
Mean Length	332	473	337	526	473	523	532	499
SE	3	3	11	2	5		10	2
Sample Size	2	103	2	148	46	1	12	314
Females		13,455	135	25,697	6,727	135	3,902	50,051
Percent		14.58	0.15	27.84	7.29	0.15	4.23	54.23
Mean Length		475	413	516	478	541	516	500
SE		2		2	4		4	1
Sample Size		100	1	191	50	1	29	372
Both Sexes	269	27,313	404	45,609	12,916	270	5,517	92,298
Percent	0.29	29.59	0.44	49.41	13.99	0.29	5.98	100.00
Mean Length	332	474	362	520	475	532	521	499
SE	3	2	11	1	3		4	1
Sample Size	2	203	3	339	96	2	41	686

Appendix L2.-Age, sex and length composition of sockeye salmon sampled at the Cottonwood Creek weir, 2003.

	Age Group						Total
	1.1	1.2	2.1	1.3	2.2	2.3	
Males	98	1,178	61	430	196	37	2,000
Percent	2.13	25.60	1.33	9.34	4.26	0.80	43.46
Mean Length	330	463	355	527	472	502	469
SE	6	2	6	5	8	16	2
Sample Size	8	96	5	35	16	3	163
Females		1,842	12	380	307	61	2,602
Percent		40.03	0.26	8.26	6.67	1.33	56.54
Mean Length		463	395	501	472	530	471
SE		2		5	4	13	1
Sample Size		150	1	31	25	5	212
Both Sexes	98	3,020	73	810	503	98	4,602
Percent	2.13	65.62	1.59	17.60	10.93	2.13	100.00
Mean Length	330	463	362	515	472	519	470
SE	6	1	6	3	4	10	1
Sample Size	8	246	6	66	41	8	375

Appendix I3.-Age, sex and length composition of sockeye salmon sampled at Wasilla Creek weir, 2003.

	Age Group									Total
	1.1	1.2	2.1	1.3	2.2	3.1	2.3	3.2	3.3	
Males	31	163	16	59	22	3	19	3		316
Percent	4.10	21.53	2.11	7.79	2.91	0.40	2.51	0.40		41.74
Mean Length	325	458	330	534	440	395	548	460		456
SE	5	3	5	7	11		17			3
Sample Size	10	53	5	19	7	1	6	1		102
Females	3	299	6	50	62		12	6	3	441
Percent	0.40	39.50	0.79	6.61	8.19		1.59	0.79	0.40	58.26
Mean Length	330	451	363	501	454		550	453	520	458
SE		2	8	7	6		9	8		2
Sample Size	1	96	2	16	20		4	2	1	142
Both Sexes	34	462	22	109	84	3	31	9	3	757
Percent	4.49	61.03	2.91	14.40	11.10	0.40	4.10	1.19	0.40	100.00
Mean Length	325	453	339	519	451	395	549	455	520	457
SE	5	2	4	5	5		11	8		2
Sample Size	11	149	7	35	27	1	10	3	1	244

Appendix I4.-Age, sex and length composition of chum salmon sampled at the Little Susitna River weir, 2003.

	Age Group		Total
	0.3	0.4	
Males	5,218	2,228	7,446
Percent	38.40	16.40	54.80
Mean Length	559	594	570
SE	2	4	2
Sample Size	96	41	137
Females	4,674	1,468	6,142
Percent	34.40	10.80	45.20
Mean Length	559	594	567
SE	2	4	2
Sample Size	86	27	113
Both Sexes	9,892	3,696	13,588
Percent	72.80	27.20	100.00
Mean Length	559	594	569
SE	2	3	1
Sample Size	182	68	250

APPENDIX M

Appendix M1.-NCIMA fishing guides listed with Anchorage, Matanuska-Susitna Valley area and Tyonek addresses, 2003.

Business Name	Owner	Local Address			
JOHN L PRIBBENOW	PRIBBENOW, JOHN L	2101 W 29TH AVE APT 6	ANCHORAGE	AK	99517-1908
MIKES SALMON XPRESS	TURNER, MICHAEL T	2900 WENDYS WAY	ANCHORAGE	AK	99517-1403
FLY FISH WITH SANDRA	ARNOLD, SANDRA L	8300 E 20TH AVE	ANCHORAGE	AK	99504-2913
LITTLE MULCHATNA LODGE	RAMSTAD, STUART G	PO BOX 101454	ANCHORAGE	AK	99510
IWALANI ENTERPRISES	FROST, MICHAEL V	2101 W 29TH AVE APT 6	ANCHORAGE	AK	99517-1908
BOBS FISHING CHARTERS	STUMPF, ROBIN G	2900 WENDYS WAY	ANCHORAGE	AK	99517-1403
REEL ALASKA FISHING GUIDES	GRIER, TIMOTHY R	8300 E 20TH AVE	ANCHORAGE	AK	99504-2913
CARLS FISHING FIESTA	ULRICH, CARL D	PO BOX 101454	ANCHORAGE	AK	99510
JOHNS ALASKAN ADVENTURES INC	PHIPPS, JOHN N	PO BOX 140783	ANCHORAGE	AK	99514-0783
D A SJODEN GUIDING	SJODEN, RICHARD A	PO BOX 190466	ANCHORAGE	AK	99519-0466
GORSKI SPORT CONSULTING SERVICES	GORSKI, TIM L	6548 CIMARRON CIR	ANCHORAGE	AK	99504-3943
HEMLOCK RIDGE CHARTERS OF ALASKA	NORRIS, JOHN C	PMB 137 5432 E NORTHERN LIGHTS	ANCHORAGE	AK	99508
GRIZZLY SKINS OF ALASKA INC	SHOEMAKER, PHILIP L	PO BOX 232083	ANCHORAGE	AK	99523-2083
PERKY PUFFIN PROFESSIONAL OUTFITTERS	FABBRI, LAURA M	7544 TIMBERWOLF CIR	ANCHORAGE	AK	99507-4813
ALASKA TROUTFITTERS	MUSE, CURT N	8032 WILLIWA AVE	ANCHORAGE	AK	99504-4168
FISH MAN GUIDE SERVICE	BODNER, JOHN J	3412 ROBIN ST	ANCHORAGE	AK	99504-4056
SLAM DUNKIN GUIDE SERVICE	DUNKIN, JASON S	3101 WILEY POST AVE	ANCHORAGE	AK	99517-2409
KALGIN ISLAND LODGE	TULIN, CHARLES & HELEN-LOUISE	1422 K ST	ANCHORAGE	AK	99501-4955
COTTON WOOD LODGE	WOODWARD, JEFF A	PO BOX 100232	ANCHORAGE	AK	99510-0232
BACKWATER OUTFITTERS	RUIZ, MIGUEL A	PO BOX 111771	ANCHORAGE	AK	99511-1771
NORTHERN RIM WILDERNESS ADVENTURES	RICHARDSON, BRIAN M	1440 E ST APT 5	ANCHORAGE	AK	99501-5062
BIG PAULS	ROBARGE, PAUL B	6464 CITADEL LN	ANCHORAGE	AK	99504-3304
ALASKA GUIDED FLYFISHING	HACKETT, ROGER O	2910 BREEZEWOOD DR # 2	ANCHORAGE	AK	99517-3266
Wilderness Place Lodge (AK ADVENTURE CO LLC)	ROCKVAM, JASON E	PO BOX 190243	ANCHORAGE	AK	99519-0243
KING POINT FISHING LODGE INC	FROHLICH, HANS-RUEDI	1016 W 22ND AVE	ANCHORAGE	AK	99503-1738
THREE RIVERS LAKE CREEK LLC	MURPHY, MICHAEL P	2620 CURLEW CR	ANCHORAGE	AK	99502
WEINMEISTER FISHING COMPANY	WEINMEISTER, G	9701 ABBOTT LOOP RD	ANCHORAGE	AK	99507-4225
CUSTOM VENTURES	BLAKNEY, BOBBY J	3333 WILEY POST LOOP	ANCHORAGE	AK	99517-2324
ALASKA MAGNUM OUTFITTERS	MATTISON, KEITH L	PO BOX 202833	ANCHORAGE	AK	99520-2833
ALASKAN SALMON HUNTER	HARDWICK, JOSEPH B	12041 FORELANDS CIR	ANCHORAGE	AK	99515-3133
RICHARD A GUTHRIE MASTER GUIDE OUTFITTER	GUTHRIE, RICHARD A	PO BOX 220949	ANCHORAGE	AK	99522-0949
BOB STUVEK SALMON FISHING	STUVEK, BOB	1060 NORMAN ST	ANCHORAGE	AK	99504-1620
3 BEARS OUTFITTERS	SUPRAK, DAN	538 W 74TH AVE APT 1	ANCHORAGE	AK	99518-2505
BRIGHTWATER ALASKA INC	ASH, CHARLES R	11300 POLAR DR	ANCHORAGE	AK	99516-1384
WORLD WIDE ANGLER INC	MCGOVNEY, MICHAEL L	510 W TUDOR RD STE 3	ANCHORAGE	AK	99503-6649
SUSITNA VALLEY RIVER GUIDES	COUGHLIN, MICHAEL T	8502 MOSS CT	ANCHORAGE	AK	99504-2926
JB'S GUIDE SERVICE	GILCREASE, JOHN B	4040 LAKERIDGE CT	ANCHORAGE	AK	99502-5186
MAESTROS GUIDE SERVICE	CUNNINGHAM, MICHAEL R	12831 PLYMOUTH CIR	ANCHORAGE	AK	99516-2751
WINGS	GRETZKE, ROBERT C	12901 GAIL ST	ANCHORAGE	AK	99515-3875
DARBYSHIRE & ASSOCIATES	DARBYSHIRE, RALPH R	1325 W 16TH AVE	ANCHORAGE	AK	99501-4914
SHEFFREYS GUIDE SERVICE	SHEFFREY, JON F	PO BOX 111641	ANCHORAGE	AK	99511-1641

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Business Name	Owner	Local Address			
KELSEYS GUIDE SERVICE	KELSEY, LANNY K	13701 ERVIN RD	ANCHORAGE	AK	99516-3592
LAKE MARIE LODGE	WILSON, DAVID L	PO BOX 210429	ANCHORAGE	AK	99521-0429
FISHMAN CHARTERS AND GUIDE SERVICE	LYDA, RONALD D	PO BOX 190887	ANCHORAGE	AK	99519-0887
SWIFTWATER OUTFITTERS	SWENOR, TOM P	3401 LOIS DR	ANCHORAGE	AK	99517-2000
ALEUT CHARTERS	KASHEVAROF, NORMAN	3407 SPENARD RD LOT 60	ANCHORAGE	AK	99503-4586
MONSTER SALMON GUIDES	PETERSON, HOWARD A	11500 BROWDER AVE	ANCHORAGE	AK	99507-6330
DIPNET CHARTERS AND TACKLE	LORENTZ, PATRICK J	3461 NEBULA CIR	ANCHORAGE	AK	99517-1639
ALASKING CHARTERS	FIELD, MICHAEL K	1511 TURPIN ST	ANCHORAGE	AK	99504-2556
NNIXESLARO	DRAPER, KRIS & MARIE	PO BOX ACR	ANCHORAGE	AK	99695-0020
GARRETT'S ANGLING ADVENTURES	HAMILTON, GARY N	8114 SUNDI DR	ANCHORAGE	AK	99502-4143
RIVERSIDE ADVENTURES	FERLAND, RUDY P	2300 D ST APT 210	ANCHORAGE	AK	99503-1979
NORTHWEST RIVER GUIDES	BLOOM, RYAN S	12216 WILDERNESS RD	ANCHORAGE	AK	99516-2243
ALASKAN OUTFITTERS	WYNNE JR, JOHN	3431 SKIPPER ST	ANCHORAGE	AK	99504-4156
PAULS KENAI KING ADVENTURES	WILLIAMS, PAUL W	1902 CIRCLEWOOD DR	ANCHORAGE	AK	99516-1993
ALASKA SMALL AND PERSONAL ADVENTURES	BESCH, BOBBY G	18110 SPAIN DR	ANCHORAGE	AK	99516-6022
SILENT RUN DRIFT BOAT GUIDE SERVICE	MAHORIC, MARK R	1803 ROOSEVELT DR	ANCHORAGE	AK	99517-2672
VERTICAL RELEASE	HALVERSON, ROBERT L	1371 HILLCREST DR APT 203	ANCHORAGE	AK	99503-1692
LEWIS CHARTERS	LEWIS, DANIEL R	1822 SUNRISE DR	ANCHORAGE	AK	99508-3349
BILLS GUIDE SERVICE	DEAVILLA, WILLIAM F	1824 WICKERSHAM DR	ANCHORAGE	AK	99507-1352
ALLURE FISHING CHARTERS	PEARCE, DAVID W	13661 SUNSET VIEW CIR	ANCHORAGE	AK	99515-4105
ALASKA X STREAM	STOABS, WILLIAM	6218 ROSE HIP CIR	ANCHORAGE	AK	99507-5456
GRIZZLY FLY FISHING	JOHNSTON, SHAWN P	7300 BIG MOUNTAIN DR	ANCHORAGE	AK	99516-5742
DOUBLE O RANCH	OVERMAN, RYAN P	1761 GEORGE BELL CIR	ANCHORAGE	AK	99515-3957
HURRICANE OUTFITTERS	ANDERSON, JACK W	6823 TERRY ST	ANCHORAGE	AK	99502-2750
DONALD E TEEPLE	TEEPLER, DONALD E	7120 TRAVIS CIR	ANCHORAGE	AK	99507-2572
BRANHAM ADVENTURES	BRANHAM, DENNIS I	PO BOX 190184	ANCHORAGE	AK	99519-0184
SCHANHALS GUIDE SERVICE	SCHANHALS, GERALD A	721 W 71ST AVE	ANCHORAGE	AK	99518-2113
C AND R OUTFITTERS	BENNETT, CAROLE F	2111 SORBUS WAY	ANCHORAGE	AK	99508-4049
HUSKER GUIDE SERVICE	MCCOWN, LONNIE R	3511 ADMIRALTY BAY DR	ANCHORAGE	AK	99515-2377
ALASKA ADVENTURES	MIKNICH, CHARLES M	3600 TAIGA DR	ANCHORAGE	AK	99516-2854
REELTIME GUIDING	PISCIONIERE, DOHN J	4140 PATTERSON ST # 1	ANCHORAGE	AK	99504-4580
GREATLAND RIVER ADVENTURES LLC	BUSH, JOHN E	10248 RIDGE PARK DR	ANCHORAGE	AK	99507-4701
ARGYLL SQUIRE	CAMPBELL, JOSEPH W	3835 HAMPTON DR	ANCHORAGE	AK	99504-4523
ALASKAN TROUTBUM ADVENTURES	BORTON, GREG S	1820 SHADETREE CIR	ANCHORAGE	AK	99502-4685
CHELATNA LAKE LODGE, INC.	BERTKE, DUKE	3941 FLOATPLANE DR	ANCHORAGE	AK	99502-1068
Alexander Ck Lodge (AK HUNTING AND FISHING ADVENTURES)	SORENSEN, FRED A	PO BOX ACR	ANCHORAGE	AK	99695-0020
AIE Tours (AIE INC)	MOROZUMI, HIDETSUGU	7021 DRIFTWOOD STREET #3	ANCHORAGE	AK	99518-2316
BULCHITNA LAKE LODGE LLC	MAZUCH, WILLIAM L	4100 FURROW CREEK RD	ANCHORAGE	AK	99516-2877
ALASKAN WILDERNESS ADVENTURES	MATSUNO, ROY	2204 W 46TH AVE	ANCHORAGE	AK	99517-3177
ALASKA FISH FINDERS	NICHOLS, KELLY A	4261 AMBLER CIR	ANCHORAGE	AK	99504-4696
ANDYS GUIDE SERVICE	ANDERSEN, CECIL J	4417 SAN ROBERTO AVE APT 3	ANCHORAGE	AK	99508-2751

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Business Name	Owner	Local Address			
EE ALASKA FRONTIER ADVENTURES	GEE, JIMMY S	PO BOX 110868	ANCHORAGE	AK	99511-0868
TRAIL RIDGE AIR INC	JENSEN, JAMES M	PO BOX 111377	ANCHORAGE	AK	99511-1377
ALASKAN FRONTIER FLOATS	DOUCET, ALISON L	9361 REDCOAT PL	ANCHORAGE	AK	99507-5365
SWISS'S ALASKA TROPHY HUNTS	SWISS, JOHN T	8341 BLACKBERRY ST	ANCHORAGE	AK	99502-4365
HAPPY HOOKERS FISHING SAFARIS	COMEAU, ROBERT O	835 NELCHINA ST	ANCHORAGE	AK	99501-4035
NORTH PACIFIC BUSINESS INSTUTITE INC	KELLEY, LEN	821 N ST STE 206	ANCHORAGE	AK	99501-3285
FIREWEED LODGE AT LAKE CREEK LLC	FRAUENFELDER, WERNER	8215 E 2ND AVE	ANCHORAGE	AK	99504-1513
HOFFMAN AND DAUGHTERS	HOFFMAN, ROBERT B	7761 INGRAM ST	ANCHORAGE	AK	99502-3921
ALASKA JOE FISHING CHARTERS	BARKOSKI, JOSEPH	8101 ONEY CIR	ANCHORAGE	AK	99507-6270
COHO GUIDE AND AIR SERVICE CORPORATION	BLACKMON, PETER G	7602 LUMBIS AVE UNIT A3	ANCHORAGE	AK	99518-3163
RUSTS FLYING SERVICE	RUST, TODD S	PO BOX 190325	ANCHORAGE	AK	99519-0325
PTARMIGAN AIR, INC.	WILLIAMS, STEVEN C	PO BOX 190834	ANCHORAGE	AK	99519-0834
MCDUGALL LODGE	FLOYD, KAZAKO	PO BOX 190491	ANCHORAGE	AK	99519-0491
ALASKAS VALHALLA LODGE, INC.	GAY, KIRK D	PO BOX 190583	ANCHORAGE	AK	99519-0583
KETCHUM AIR SERVICE, INC.	KETCHUM, CRAIG L	PO BOX 190588	ANCHORAGE	AK	99519-0588
LAKE CREEK LODGE	AANENSEN, DENNIS G	PO BOX 92142	ANCHORAGE	AK	99509-2142
B AND PS LODGE INC	TSCHANZ, PETER	PO BOX 112616	ANCHORAGE	AK	99511-2616
UPPER RUSSIAN LAKE LODGE	ROMIG, HOWARD G	5531 RICKY RD	ANCHORAGE	AK	99516-4919
YENTNA RIVER LODGE	JOHNSON, ROBERT D	3907 E 67TH AVE	ANCHORAGE	AK	99507-2343
RIVER RUNNERS GUIDE SERVICE	FOSTER, CHRIS L	PO BOX 230155	ANCHORAGE	AK	99523-0155
DANS ALASKAN SPORTFISHING VENTURES	DUBE, DAN M	PO BOX 210662	ANCHORAGE	AK	99521-0662
MANY RIVERS ALASKA	MAKER, ROBERT C	PO BOX 222155	ANCHORAGE	AK	99522-2155
BOOK AND HOOK KENAI RIVER GUIDE SERVICE	ZABOROSKIE, DAVID R	PO BOX 111205	ANCHORAGE	AK	99511-1205
KENAI SKYBOX LODGE	LANGIT, JOSE O	4359 RENDEZVOUS CIR	ANCHORAGE	AK	99504-4219
WOMENS FLYFISHING	KLEINKAUF, CECILIA "PUDGE"	PO BOX 243963	ANCHORAGE	AK	99524-3963
MAGICS GUIDE SERVICE	PIERCE, MIKE S	PO BOX 244262	ANCHORAGE	AK	99524-4262
WEISE ADVENTURES	WEISE, JAMES R	PO BOX 244771	ANCHORAGE	AK	99524-4771
FISHIN RODS KENAI CHARTERS	JONES, RODNEY W	2360 INNES CIR	ANCHORAGE	AK	99515-4117
ALASKA EVASION	THOMPSON, BERNARD	PO BOX 102326	ANCHORAGE	AK	99510
UGASHIK LAKES AND KODIAK BEAR CAMP	LAMOUREUX, GUS W	PO BOX 90444	ANCHORAGE	AK	99509-0444
ON THE EDGE ADVENTURES	SHANIGAN, TERRENCE TJ	8102 LAMPLIGHTER CT	ANCHORAGE	AK	99502-4683
MOUNT SUSITNA LODGE	TUAZON, LAURA M	PO BOX ACR	ANCHORAGE	AK	99695-0020
BAD ASS FISHING EXPERIENCE	WILKINSON, WILLIAM	16701 RANSOM RIDGE RD	ANCHORAGE	AK	99516-5347
FRONTIER RIVER GUIDES	DECKER, MARTY M	PO BOX 141521	ANCHORAGE	AK	99514-1521
CASEY'S OUTDOOR GUIDE SERVICE	CASEY, FRANK D	2204 W NORTHERN LIGHTS BLVD APT 20	ANCHORAGE	AK	99517-3352
ALASKA CUSTOM FISHING CHARTERS AND TOURS	STANGL, KURT O	5308 MANYTELL AVE	ANCHORAGE	AK	99516-4264
THE FISHIN SHACK	SHACKELFORD, DUNCAN L	PO BOX 233312	ANCHORAGE	AK	99523-3312
BOB COUEY MASTER GUIDE	COUEY, ROBERT H	6951 HYATT ST	ANCHORAGE	AK	99507-2428
IZZYS GUIDE SERVICE	ISDELL, JAMES F	PO BOX 212591	ANCHORAGE	AK	99521-2591
ALASKA DALL SHEEP GUIDES AND FLYING SERVICE	MAHONEY, E MONT	PO BOX 190905	ANCHORAGE	AK	99519-0905
GASKINS GUIDE SERVICE	GASKINS, JOHN W	6900 FERNWOOD AVE	ANCHORAGE	AK	99516-4420

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Business Name	Owner	Local Address				
TRUE NORTH RIVER GUIDES	DRAKE, NATHAN M	3511 VIEW PARK CIR APT D	ANCHORAGE	AK	99502-5283	
ELG OUTFITTERS	ELG, WADE V	7213 FOXRIDGE CIR # 2	ANCHORAGE	AK	99518-2702	
GARDNERS SPORT FISHING ADVENTURES	GARDNER, ALAN R	1900 MEANDER CIR	ANCHORAGE	AK	99516-7312	
KATMAI AIR LLC	PETERSEN, RAYMOND F	4125 AIRCRAFT DR	ANCHORAGE	AK	99502-1050	
SPORTSMANS AIR SERVICE	SCHUSTER, JOE J	3250 LAKE PARK CIR	ANCHORAGE	AK	99517-2811	
MUSH MELLEN EDUCATIONAL SERVICES	SHEA, MARY ELLEN	15301 ELMORE RD	ANCHORAGE	AK	99516-4164	
HOOK AND BULLET GUIDE SER.	MYRE, MARTY R	6928 WINDSOR PL	ANCHORAGE	AK	99502-3084	
BEARTRACKS LODGE	BARRETT, FRANK	2440 E TUDOR RD # 1061	ANCHORAGE	AK	99507-1185	
ANGLERS INN LODGE	MITTASCH, VICTOR J	PO BOX 110610	ANCHORAGE	AK	99511-0610	
D RAY PERSONAL GUIDE SERVICE	HARDY, DANIEL R	3715 W 35TH AVE	ANCHORAGE	AK	99517-1558	
ARK ANGEL ANGLERS	BRAY, PHILIP E	14115 HANCOCK DR	ANCHORAGE	AK	99515-3959	
WITHIN THE WILD ADVENTURE CO	DIXON, CARL L	2463 COTTONWOOD ST	ANCHORAGE	AK	99508-3931	
FLY GUYS FISHING GUIDES	SMITH, RONALD C	1210 NELCHINA ST	ANCHORAGE	AK	99501-4824	
GOURMET TRAVEL ADVENTURES	SHADRICK, KIRK W	PO BOX 202088	ANCHORAGE	AK	99520-2088	
STRIEBYS GUIDE SERVICE	STRIEBY, JERRY E	343 E DOWLING RD # 1	ANCHORAGE	AK	99518-1315	
T C LEWIS LODGE	CARAWAY, CANDIE M	13 WAILING WOLF WAY	BELUGA	AK	99695	
BILLS RIVERBOAT SERVICE	WILLIAM, WILLIAM T	PO BOX 521742	BIG LAKE	AK	99652-1742	
ALASKA GOLD RUSH ADVENTURES LLC	ENLOE, ARLEY S	PO BOX 521068	BIG LAKE	AK	99652-1068	
CHELATNA LAKESHORE RETREAT	MORRISON, SHELLEY	PO BOX 521805	BIG LAKE	AK	99652-1805	
RICHMONDS ALASKAN GUIDE SERVICE	RICHMOND, PHILLIP M	PO BOX 521278	BIG LAKE	AK	99652-1278	
CAMP CREEK WILDERNESS RESORT	WILMES, MICHAEL W	PO BOX 520924	BIG LAKE	AK	99652-0924	
GRIZZLY CHARTERS	PRICE, MICHAEL R	PO BOX 30283	CENTRAL	AK	99730-0283	
HOOFING IT	LYON, DAVE B	PO BOX 671916	CHUGIAK	AK	99567-1916	
B S AND K FLY FISHING	MILLS, BRETT W	20434 LEPRECHAN DR	CHUGIAK	AK	99567-6275	
SILT HAPPENS CHARTERS	HAY, DANIEL L	PO BOX 671063	CHUGIAK	AK	99567-1063	
WHOLE HAWG CHARTERS	ERWIN, WILLIAM P	PO BOX 672193	CHUGIAK	AK	99567-2193	
SLEEPING LADY CHARTERS	MASKER, WILLARD H	11153 KASKANAK DR	EAGLE RIVER	AK	99577-7225	
ALASKA GONE FISHING CHARTERS	HUNT, DAVID A	18606 LITTLE CAPE CIR	EAGLE RIVER	AK	99577-8559	
ALASKA SPORTS AND HOBBY EXPEDITERS	SILLIMAN, GERALD R	PO BOX 770333	EAGLE RIVER	AK	99577-0333	
ALASKA CUSTOM GUIDES	LATTERY, DENNIS L	PO BOX 770775	EAGLE RIVER	AK	99577-0775	
WITS END	HEIDEMANN, CORINNE	PO BOX 770061	EAGLE RIVER	AK	99577-0061	
EAGLE SONG ON TRAIL LAKE	WILLIAMS, MICHAEL W	PO BOX 770190	EAGLE RIVER	AK	99577-0190	
ROD BENDING ADVENTURES	BUCHOLZ, MARK A	9197 W PARKVIEW	EAGLE RIVER	AK	99577	
ROYAL ALASKAN ADVENTURES	JARVIS, ROY A	9751 ETOLIN CIR	EAGLE RIVER	AK	99577-8787	
D J ENTERPRISES	CATES, JASON A	PO BOX 772331	EAGLE RIVER	AK	99577-2331	
STEPHAN LAKE LODGE INC	BAILEY, JIM	PO BOX 770695	EAGLE RIVER	AK	99577-0695	
BUSHWACKER FLY FISHING SERVICE	GODSEY, JOHN A	11505 BOREALIS ST	EAGLE RIVER	AK	99577-7854	
RICKS FISHING ALASKA	HELTON, RICK A	12532 IRIS WAY	EAGLE RIVER	AK	99577-7622	
EAGLE MOUNTAIN CHARTERS	MENARD, DENNIS P	HC 85 BOX 9299	EAGLE RIVER	AK	99577-9401	
ALPENGLOW LODGE AND GUIDE SERVICE	ROLF, GARY L	9630 NULATO CIR	EAGLE RIVER	AK	99577-8649	
KING BEAR LODGE	PIEKARSKI, ANDREW J	PO BOX 770831	EAGLE RIVER	AK	99577-0831	
WILD ALASKA ADVENTURES	MANESS, GARY D	PO BOX 771856	EAGLE RIVER	AK	99577-1856	

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Appendix M1.-Page 5 of 7.

Business Name	Owner	Local Address			
ZMANS GUIDE SERVICE	ZUNIGA, ORLANDO	PO BOX 5448	FORT RICHARDSON	AK	99505-0448
BIG FISH ALASKA. FLY FISHING GUIDES	MCDONALD. JEFFREY R	PO BOX 256	GIRDWOOD	AK	99587-0256
KEN MANNING	MANNING. KEN H	PO BOX 715	GIRDWOOD	AK	99587-0715
ALASKA FLYFISHING SAFARIS	THOMPSON. STEPHEN D	PO BOX 1076	GIRDWOOD	AK	99587-1076
REMOTE ALASKA FISHING TOURS	DESCUTNER, GORDON E	PO BOX 500	GIRDWOOD	AK	99587-0500
FISHING WILD ALASKA	MROCZYNSKI, MICHAEL R	PO BOX 235	GIRDWOOD	AK	99587-0235
OUZEL EXPEDITIONS INC	ALLRED, PAUL & SHARON	PO BOX 935	GIRDWOOD	AK	99587-0935
RED DOG CHARTERS	STROMIRE, MERT	PO BOX 681	GLENNALLEN	AK	99588-0681
RIVERSIDE CAMPER PARK	MORTENSEN, KENNETH R	PO BOX 940087	HOUSTON	AK	99694-0087
YENTNA STATION ROADHOUSE	GABRYSZAK, DANIEL L	PO BOX 940171	HOUSTON	AK	99694-0171
FISHERMANS CHOICE CHARTERS	BLODGETT, RAYMOND & DEBRA	PO BOX 940276	HOUSTON	AK	99694-0276
GABBERTS FISH CAMP	PATTERSON, SHERRY	PO BOX 7356	NIKISKI	AK	99635-7356
REDOUBT BAY FISH CAMP	BAILEY, DON W	HC 1 BOX 6472Y	PALMER	AK	99645-9614
CAPTAIN R O BAKER II, LLC	BAKER II, ROBERT ORR	PO BOX 497	PALMER	AK	99645-0497
Hanson Charters (ALASKA FLYFISHING ONLINE)	HANSON, BRAD J	HC 5 BOX 6896	PALMER	AK	99645-9612
PREDATOR GUIDE SERVICE	MEARS, KELLY R	PO BOX 863	PALMER	AK	99645-0863
ALASKAN VISTAS	KRIMM, CHARLES F	102 W BEAVER AVE	PALMER	AK	99645-6242
CENTRAL RIVERS GUIDE SERVICE	FARRINGTON, PATRICK T	PO BOX 3536	PALMER	AK	99645-3536
AFFORDABLE ALASKAN ANGLING ADVENTURES	VAN DONGEN, C MARC	HC 1 BOX 6098-U	PALMER	AK	99645-9602
REEL ADVENTURES	WHITLATCH, JOHN D	HC 2 BOX 7693-8	PALMER	AK	99645-9710
DANS ALASKAN ADVENTURES	RASCH, DAN A	HC 4 BOX 9023M	PALMER	AK	99645-9510
ALASKA ANGLERS	TOMPKINS, ED J	HC 4 BOX 9250	PALMER	AK	99645-9503
FISHTALE RIVER GUIDES	COUCH, ANDREW N	PO BOX 155	PALMER	AK	99645-0155
PHANTOM MOUNTAIN ADVENTURES	STEWART, WILLAIM L	PO BOX 2629	PALMER	AK	99645-2629
TROPHY CATCH CHARTERS	BOOTH, WILLIAM E	PO BOX 3782	PALMER	AK	99645-3782
GLEN VENTURES FISHING	RAMOS, GLEN W	PO BOX 4002	PALMER	AK	99645-4002
MATANUSKA ADVENTURES	OSGOOD, DAVID M	HC 3 BOX 8291	PALMER	AK	99645-9403
ELKHORN ADVENTURES	CONNELLY, LESTER J	PO BOX 762	PALMER	AK	99645-0762
SIDS GUIDE SERVICE	COOK, SIDNEY W	PO BOX 1524	PALMER	AK	99645-1524
NORTHWESTERN ADVENTURES	HERMON, NEIL R	PO BOX 3211	PALMER	AK	99645-3211
TRUE WILDERNESS ADVENTURES	PEYTON, ISRAEL P	PO BOX 1	SKWENTNA	AK	99667-0001
BARREL E SKWENTNA	CHILDS, STEVEN J	PO BOX 33	SKWENTNA	AK	99667-0033
WHITE WOLF INN	OBERMAN, DAVID &CATHLEEN	PO BOX 53	SKWENTNA	AK	99667-0053
NORTHWOODS LODGE	JOHNSON, ERIC S	PO BOX 56	SKWENTNA	AK	99667-0056
MIDWAY BASE CAMP	OFFNER, WILLIAM A	PO BOX 74	SKWENTNA	AK	99667-0074
HEWITT LAKE LODGE INC.	WEGSCHEIDER, MARTIN J	PO BOX 25	SKWENTNA	AK	99667-0025
BLUEBERRY HILL OUTFITTERS	WALLS, DONALD J	PO BOX 42	SKWENTNA	AK	99667-0042
ALDER VIEW RETREAT	CAMPBELL, LEO	PO BOX 72	SKWENTNA	AK	99667-0072
BENTALIT LODGE INC	BRION, TOM B	PO BOX 52	SKWENTNA	AK	99667-0052
REDOUBT MOUNTAIN LODGE LLC	JOHNSON, ERIC S	PO BOX 56	SKWENTNA	AK	99667-0056
WHISKEY LAKE LODGE	GAGNE, TERRI L	PO BOX 57	SKWENTNA	AK	99667-0057
MAHAYS RIVERBOAT SERVICE INC	MAHAY, STEPHEN T	PO BOX 705	TALKEETNA	AK	99676-0705

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Appendix M1.-Page 6 of 7.

Business Name	Owner	Local Address			
FISHINALASKA	FISHER, STEPHEN K	PO BOX 293	TALKEETNA	AK	99676-0293
MOUNTAIN RIVER ADVENTURES	MUSHRUSH, WAYNE	PO BOX 905	TALKEETNA	AK	99676-0905
R AND R CHARTERS	RINEHART, TORI A	PO BOX 147	TALKEETNA	AK	99676-0147
TALKEETNA FISHING GUIDES	SOUSA, GERALD L	PO BOX 922	TALKEETNA	AK	99676-0922
ON THE FLY OUTFITTER	KASO, KELSEY D	PO BOX 104	TALKEETNA	AK	99676-0104
DENALI ANGLERS	VALENTINE, CHAD F	PO BOX 77	TALKEETNA	AK	99676-0077
DENALI GUIDES AND OUTFITTERS	FITZGERALD, WILLIAM J	PO BOX 93	TALKEETNA	AK	99676-0093
FITZGERALD GUIDE SERVICES	FITZGERALD, KEVIN B	PO BOX 375	TALKEETNA	AK	99676-0375
Fishcatchers (YUKON DONS INC)	TANNER, DON	PO BOX 646	TALKEETNA	AK	99676-0646
TALKEETNA YACHT CLUB	BUTCHER, LEE E	PO BOX 528	TALKEETNA	AK	99676-0528
PILGRIMS RETREAT	PAGE, JOE C	PO BOX 159	TALKEETNA	AK	99676-0159
KENAI KEITHS GUIDE SERVICE	HOLTAN, KEITH D	PO BOX 13062	TRAPPER CREEK	AK	99683-0062
D AND D ENTERPRISES	THOMPSON, DAVID D	PO BOX 13235	TRAPPER CREEK	AK	99683-0235
GEORGE FAERBER ALASKAN GUIDE AND OUTFITTER	FAERBER, GEORGE L	PO BOX 13005	TRAPPER CREEK	AK	99683-0005
TRADING BAY ENTERPRISES	HAYES, RON JC	PO BOX 82056	TYONEK	AK	99682-0056
CHUITNA RIVER GUIDES	STANDIFER SR, FRANK	PO BOX 82048	TYONEK	AK	99682-0048
ALASKAS DESHKA RIVER LODGE	WILLIS, SILVIA & ANDY	PO BOX 878181	WASILLA	AK	99687-8181
KROTO CREEK CHARTERS	JARVIS, MICHAEL P	PO BOX 870910	WASILLA	AK	99687-0910
THUNDERBIRD AIR, INC.	WANGBERG, JERROLD A.	PO BOX 875402	WASILLA	AK	99687
ALASKA TROPHY CONNECTIONS	BRENT, CARL E	1430 BRENT POINT DR	WASILLA	AK	99654-1522
SUSITNA RIVEROVER CHARTERS	TUCKER, DANIEL J	4330 WICKERSHAM WAY	WASILLA	AK	99654-7638
ALASKA RIVER PROS	SEHL, MARK C	PO BOX 871010	WASILLA	AK	99687-1010
ALASKA GOOD TIME CHARTERS	PINQUOCH, DAVID M	PO BOX 876257	WASILLA	AK	99687-6257
ALASKA FISHING FEVER CHARTER	LEMAY, WILLIAM E	PO BOX 874388	WASILLA	AK	99687-4388
MIRACLE WILDERNESS FISHING CHARTERS	DUNN, GRADY M	PO BOX 870069	WASILLA	AK	99687-0069
TRI RIVER CHARTERS	STICKLES, ROBERT J	1301 INVERNESS DR	WASILLA	AK	99654-1707
ALASKA JETBOAT CHARTERS	KEDRAWSKI, JAMES L	PO BOX 871647	WASILLA	AK	99687-1647
MIKE MAN CHARTERS	TAFOYA, MICHAEL A	PO BOX 872082	WASILLA	AK	99687-2082
SUSITNA SUNSHINE CHARTERS AND TOURS	CRAIG, JOBY W	PO BOX 872380	WASILLA	AK	99687-2380
MOOSEHORN LODGE	NAPFLIN, ERICH P	PO BOX 873095	WASILLA	AK	99687-3095
VALLEY RIVER CHARTERS	PETERSON, MATT L	HC 31 BOX 5167-A	WASILLA	AK	99654-9703
SALMON READY OUTFITTERS AND GUIDE SERVICE INC	EVANS, GREGORY	HC 31 BOX 5221	WASILLA	AK	99654-9704
ACORD GUIDE SERVICE	ACORD, GREG L	PO BOX 870790	WASILLA	AK	99687-0790
BEAR AIR	BEAR, SHERMAN W	PO BOX 875493	WASILLA	AK	99687-5493
RAINBOW RIVER EXPEDITIONS	HAYNES, NORMAN P	HC 30 BOX 5598D	WASILLA	AK	99654-9712
CANYON LAKE LODGE	FAEO, JOHN D	PO BOX 872795	WASILLA	AK	99687-2795
MARSHALLS FISH GUIDING	MARSHALL, DARRIN L	2930 BRENNAS WAY	WASILLA	AK	99654-3337
D&G ENTERPRISES	FLOYD, DAVID M	220 FOREST AVE	WASILLA	AK	99654-5623
CJS RIVERBOAT SERVICE	JUDKINS, CLIFFORD P	PO BOX 874124	WASILLA	AK	99687-4124
JIMMIE JACK.COM	DRATH, JAMES W	PO BOX 874255	WASILLA	AK	99687-4255
ALASKAN EXPLORERS AND FISHERMEN	JONES, KENNETH R	HC 34 BOX 2657	WASILLA	AK	99654-9614

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Business Name	Owner	Local Address			
VALLEY LAKES ADVENTURES	MALONE, MICHAEL J	PO BOX 871701	WASILLA	AK	99687-1701
FISH ON GUIDING SERVICE	POMAR, CLYDE M	PO BOX 872360	WASILLA	AK	99687-2360
ALASKA NORTHWOODS FISHING GUIDES	GREEN, PAUL H	1560 PINTAIL DR	WASILLA	AK	99654-2609
ALASKA REMOTE GUIDE SERVICE	KUBAT, WAYNE E	PO BOX 874867	WASILLA	AK	99687-4867
JEFF TROTTER	TROTTER, JEFF D	PO BOX 870693	WASILLA	AK	99687-0693
FISHY BUSINESS	FLETCHER, JERRY D	PO BOX 872068	WASILLA	AK	99687-2068
THE LAST FRONTIERSMAN	MCDOWELL, DANIEL J	5801 YADON DR	WASILLA	AK	99654-7809
FISHIN KING ADVENTURES	SCHUMACHER, VALERIE R	400 GRAYBARK LOOP	WASILLA	AK	99654-6383
QUICKSILVER CHARTERS	CHILDS, DAVID A	PO BOX 878556	WASILLA	AK	99687-8556
CLASSIC VIEW GUIDING	YORK, RONALD G	PO BOX 872032	WASILLA	AK	99687-2032
ARCTIC ADVENTURES	ONEY, ANTHONY K	1830 E PARKS HWY PMB 325	WASILLA	AK	99654-7374
EAGLE TALON CHARTERS	ARNDT, THOMAS M	PO BOX 874506	WASILLA	AK	99687-4506
NORTHERN DRIFT EXPOSURE	PEACOCK, ROBERT	1830 E PARKS HWY # 606	WASILLA	AK	99654-7374
GREATLAND SAFARIS	LINDGREN, DARRELL A	PO BOX 870484	WASILLA	AK	99687-0484
T C GUIDE SERVICE	DESAN, LANCE	4181 DEWAN CT	WASILLA	AK	99654-7575
Willow Air (BAL INC)	WHITE, GWENDOLYN A	PO BOX 42	WILLOW	AK	99688-0042
CLEARWATERS FLY FISHING INSTRUCTION & GUIDE SERVICE	DUNLAP, SCOTT D	HC 89 BOX 394	WILLOW	AK	99688-9704
PARADISE CHARTERS	KELLEY, JAMES P	PO BOX 814	WILLOW	AK	99688-0814
HIGH COUNTRY ALASKA	PRALLE, JEFF K	PO BOX 512	WILLOW	AK	99688-0512
WILLOW CREEK RESORT	DEAN, THERESA C	PO BOX 85	WILLOW	AK	99688-0085
Millers Riverboat Service (CONNER ENT INC)	CONNER, DALA L	PO BOX 1068	WILLOW	AK	99688-1068
ALASKA DESHKA LANDING CHARTERS	GANGE, GERALD L	PO BOX 263	WILLOW	AK	99688-0263
PIONEER LODGE INC	WHITE, STEVAN H	PO BOX 1028	WILLOW	AK	99688-1028
ADVENTURE GUIDING	ORTMAN, GEORGE	PO BOX 261	WILLOW	AK	99688-0261
CHLUPACHS SPORT FISHING	CHLUPACH, ROBERT S	PO BOX 73	WILLOW	AK	99688-0073
RON'S RIVERBOAT SERVICE	WILSON, RONALD R	PO BOX 670	WILLOW	AK	99688-0670

Appendix M2.-NCIMA Fish and Wildlife Advisory Committee members.

First	Last	Profile	Address	City	Zip Code	Home	Work	Fax	Email	Term Ends
Matanuska Susitna Valley										
Kenneth	Barber		HC 02, Box 7330	Palmer	99645	745-4446			pattiandkenny@gci.net	Dec-03
Andy	Couch		PO Box 155	Palmer	99645	746-2199	376-3687		charter@fish4salmon.com	Dec-03
Stephen	Darilek	Alternate	PO Box 871397	Wasilla	99687	376-9797				Dec-03
Bennett	Durgeloh	Alternate	2200 Wasilla Fishhook Rd	Wasilla	99654	376-0603	376-3958	357-3958		Dec-03
Bill	Folsom		PO Box 4861	Palmer	99645	745-4339		745-1670	kdfish@mat-net.com	Dec-05
Daniel	Green		HC 31, Box 5263B	Wasilla	99654	376-9593		357-8593	dgreen@alaska.net	Dec-04
Leonard	Haire		PO Box 879030	Wasilla	99687	376-6183		376-6186	akairbts@alaska.com	Dec-04
Dennis	Hamann	Vice Chair	1200 Oat Street	Wasilla	99654	373-5938	373-2000	373-6001	loriann@mtaonline.net	Dec-05
Rose	Holt		PO Box 521288	Big Lake	99652	373-0639			ggholt@webtv.net	Dec-03
Wayne	Kubat	Chair	PO Box 874867	Wasilla	99687	376-9567	376-9569	(907)376-9568	args@mtaonline.net	Dec-03
Patrick	O'Connor		PO Box 3687	Palmer	99645	745-0426			patarlete@gci.net	Dec-05
Greg	Pepperd		PO Box 870282	Wasilla	99687	376-2615	441-9205		pepperd@alaska.net	Dec-05
Michael	Peryam		HC32, Box 6637B	Wasilla	99654	376-7025	265-2419		periam@ptialaska.net	Dec-04
Doug	Sehm		PO Box 876224	Wasilla	99687	376-5337		373-6543	schm@mta.net	Dec-03
Steve	Simmons	Secretary	PO Box 71	Sutton	99674	745-2199	745-0742	354-0597 cell	suhanna@gci.net	Dec-04
Nicholas	Steen		HC32, Box 6561	Wasilla	99654	745-2739				Dec-04
Mt Yenlo										
Ed	Apperson	Undesignated	PO Box 22	Skwentna	99667	243-7717	244-9999	248-7716		Dec-06
Bonnie	Childs	Skwentna	PO Box 43	Skwentna	99667	733-3560				Dec-06
Steve	Childs		PO Box 33	Skwentna	99667	733-3560				Dec-04
Eric	Johnson	Skwentna	PO Box 56	Skwentna	99667	733-3742				Dec-06
Vern	Logan	Undesignated	Donkey Lake	Skwentna	99667	733-2166				Dec-04
Roy	Mackie		2716 Berryman Lane	Anchorage	99502	272-0336				Dec-04
David	McHoes	Vice Chair	PO Box 62	Skwentna	99667	733-3033				Dec-05
Bob	Meisner	Skwentna	PO Box 520224	Big Lake	99652	733-1819				Dec-06
Thomas	Payton	Chair	PO Box 1	Skwentna	99667	746-9029	733-3400	733-3400 4 pm Call first		Dec-05
Barry	Stanley	Willow	PO Box 1017	Willow	99688	495-5897	495-5899		fly@denaliflying.com	Dec-04

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First	Last	Profile	Address	City	Zip Code	Home	Work	Fax	Email	Term Ends
<u>Tyonek</u>										
Patrick	Chuit, Jr		PO Box 82031	Tyonek	99682	583-2228				Dec-04
Harriet	Kaufman	Chair	PO Box 82031	Tyonek	99682	583-2191	583-2115	583-2442	harrietto@aol.com	Dec-05
Peter	Merryman		PO Box 82033	Tyonek	99682	583-2035	583-2271	583-2442	tyonek@aol.com	Dec-06
Arthur	Standifer		PO Box 82067	Tyonek	99682	583-2233				Dec-05
Joshua	Salas		PO Box 82091	Tyonek	99682	583-2757	583-2145	583-2146	joshsal9@aol.com	Dec-06
John	Standifer		PO Box 82064	Tyonek	99682	583-2066	583-2291			Dec-04
Randy	Standifer		PO Box 82071	Tyonek	99682	583-2211	583-2201	583-2442		Dec-04
Daniel	Standifer, Sr	Vice Chair	PO Box 82046	Tyonek	99682	583-2811				Dec-06
<u>Denali</u>										
Ray	Atkins		PO Box 22	Cantwell	99729	768-2143		768-2651	atkins_diane@hotmail.com	Dec-03
Michael	Brooks		PO Box 93	Cantwell	99729	768-2406	768-2355	768-2408	akmikeb@yahoo.com	Dec-04
Janet	Brooks		PO Box 93	Cantwell	99729	768-2406	768-2355	768-2408	akmikeb@yahoo.com	Dec-05
Marty	Caress	Chair	PO Box 76	Cantwell	99729	768-1123		768-1123	rcaress@hotmail.com	Dec-04
Vernon	Carlson		PO Box 31	Cantwell	99729	768-2483	768-2355	768-2356	susancarlson@webtv.net	Dec-05
Ray	Goble		PO Box 2	Cantwell	99729	768-2633	768-2610			Dec-04
J Marie	Gore		PO Box 86	Cantwell	99729	768-2485		768-2486	fsjmg2@uaf.edu	Dec-03
Paul	Miller		PO Box 166	Cantwell	99729	768-2418			taku_me@yahoo.com	Dec-03
Lawrence	Matlock		PO Box 74	Cantwell	99729	768-2424				Dec-03
Martin	Moffat	Vice Chair	PO Box 5	Cantwell	99729	768-1133			moffat5@hotmail.com	Dec-04

APPENDIX N

Appendix N1.-Classroom visits and presentations conducted for ADF&G Education Program in 2003.

Date	School (Organization)	# Students	Age Group	Subject
01/08/03	Sutton Elementary	24	Elementary	Deliver salmon books
01/09/03	Homestead	52	Elementary	Fly tying
01/13/03	Orion	54	Elementary	Fly tying
01/13/03	College Gate	24	Elementary	Fly tying
01/14/03	Gladys Wood	52	Elementary	Fly tying
01/14/03	Trailside	77	Elementary	Fly tying
01/16/03	Mat-Su Schools	340	Elem/MS	Ice fishing Finger Lake
01/17/03	Mat-Su Schools	370	Elem/MS	Ice fishing Finger Lake
01/21/03	Anchorage Schools	479	Elementary	Ice fishing Jewel Lake
01/22/03	Anchorage Schools	490	Elementary	Ice fishing Jewel Lake
01/23/03	Anchorage Schools	478	Elementary	Ice fishing Jewel Lake
01/24/03	Anchorage Schools	504	Elementary	Ice fishing Jewel Lake
01/27/03	18 Mat-Su Schools		Elem/MS	Deliver salmon books, fish food, 1 st catch card
01/29/03	Kasuun	72	Elementary	Fly tying
01/29/03	Fire Lake	56	Elementary	Fly tying
01/30/03	Turnagain	54	Elementary	Fly tying
01/30/03	Ursa Minor	17	Elementary	Fly tying
01/31/03	Glacier View		Elementary	Deliver salmon books, fish for dissection
02/03/03	4 Mat-Su HS		High School	Deliver salmon books
02/04/03	Bear Valley	78	Elementary	Fly tying
02/05/03	Inlet View	26	Elementary	Fly tying
02/05/03	Russian Jack	54	Elementary	Fly tying
02/06/03	SAVE	54	High School	Fly tying
02/07/03	Willow Crest	26	Elementary	Fly tying
02/07/03	Huffman	78	Elementary	Fly tying
02/10/03	Rogers Park	95	Elementary	Fly tying
02/11/03	Goose Bay	24	Elementary	Presentation of prizes to art contest winner
02/11/03	4 Mat-Su Elementary		Elementary	Deliver info on 2003 Salmon Celebration
02/12/03	Fairview	48	Elementary	Fly tying
02/12/03	Chinook	48	Elementary	Fly tying
02/14/03	Willow		Elementary	Deliver salmon books & Salmon Celeb. info

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Date	School (Organization)	# Students	Age Group	Subject
02/14/03	Talkeetna	33	Elementary	Fly tying
02/20/03	Larson	101	Elementary	Fly tying
02/21/03	Glacier View	38	Elem/MS/HS	Fly tying
02/25/03	Sterling	24	Elementary	Fly tying
02/25/03	Nikiski	29	Elementary	Fly tying
02/26/03	Redoubt	49	Elementary	Fly tying
02/27/03	K-Beach	75	Elementary	Fly tying
02/27/03	Mt. View	47	Elementary	Fly tying
02/28/03	Chapman	46	Elementary	Fly tying
02/28/03	Ninilchik	17	Elementary	Fly tying
03/07/03	Big Lake 4H	8	Elementary	Fly tying
04/01/03	Sherrod		Elementary	Fix powerhead
04/01/03	Finger Lake		Elementary	Fix feeding problem
04/03/03	GASS	25	Adult	Stocked lakes presentation
04/05/03	GASS	60	Adult	Stocked lakes presentation
04/09/03	Big Lake	60	Elementary	Dissection
04/11/03	Talkeetna	33	Elementary	Volunteer training for Earth Day
04/19/03	Talkeetna	100	Elen./Adult	Earth Day
04/22/03	Finger Lake	24	Elementary	Design a fish
04/23/03	Colony Middle	58	Middle School	Dissection
04/25/03	Snowshoe	250	Elementary	Career Day
04/29/03	Wasilla High	20	High School	Training for salmon celebration
05/05/03	Kenai River Center	75	Elementary	Training for salmon celebration
05/06/03	Kenai Schools	650	Elementary	Kenai Salmon Celebration
05/08/03	Anchorage Schools	70	Elementary	Training for salmon celebration
05/09/03	Anchorage Schools	1,700	Elementary	Anchorage Salmon Celebration
05/12/03	Teeland	70	Middle School	Training for salmon celebration
05/13/03	Mat-Su Schools	1,200	Elementary	Mat-Su Salmon Celebration
05/19/03	Tanaina	50	Elementary	Dissection/fish printing
05/30/03	Anchorage Schools	1,800	Elementary	Anchorage Smolt Release
06/13/03	Girl Scout Jamboree	90	Elem/MS	Fly tying

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Date	School (Organization)	# Students	Age Group	Subject
06/14/03	Girl Scout Jamboree	90	Elem/MS	Fly tying
09/05/03	Pioneer Peak		Elementary	Drop off Streamkeeper Book
09/05/03	Teeland		Middle School	Fix chiller and powerhead
09/05/03	Larson		Elementary	Pickup incubation unit
09/09/03	Tanaina	32	Elementary	Incubator setup & salmon presentation
09/10/03	Snowshoe	54	Elementary	Incubator setup & salmon presentation
09/12/03	Big Lake	50	Elementary	Incubator setup & salmon presentation
09/12/03	Sutton	30	Elementary	Incubator setup & salmon presentation
09/15/03	Cottonwood Creek	30	Elementary	Dissection & salmon presentation
09/15/03	Goose Bay	42	Elementary	Incubator setup & salmon presentation
09/16/03	Su Valley	12	High School	Incubator setup & salmon presentation
09/18/03	Snowshoe	30	Elementary	Incubator setup
09/18/03	5 Mat-Su Schools		Elementary	Deliver curriculum & vial displays
09/22/03	Anchorage Schools	349	Elem/MS	Egg take for classroom incubation
09/23/03	Anchorage Schools	311	Elem/MS	Egg take for classroom incubation
09/24/03	Anchorage Schools	577	Elem/MS	Egg take for classroom incubation
09/25/03	Anchorage Schools	414	Elem/MS	Egg take for classroom incubation
09/25/03	Ravenwood		Elementary	Replace broken chiller
09/26/03	Anchorage Schools	613	Elem/MS	Egg take for classroom incubation
09/29/03	Sherrod		Elementary	Repair powerhead
09/30/03	Mat-Su Schools	552	Elem/MS	Egg take for classroom incubation
10/01/03	Mat-Su Schools	380	Elem/MS	Egg take for classroom incubation
10/02/03	Healy	17	Middle School	Dissection
10/03/03	Nordale/Arctic Light	60	Elementary	Volunteer training for salmon celebration
10/07/03	Fairbanks Schools	510	Elem/MS	Egg take for classroom incubation
10/13/03	4 Anchorage Schools		Elem/HS	Deliver fertilized eggs for incubation projects
10/15/03	Kenai Schools	157	Elementary	Egg take for classroom incubation
10/19/03	Larson Bay		Elem/MS/HS	Collect coho for egg take, setup incubator
10/20/03	Larson Bay	15	Elem/MS/HS	Dissection, life cycle, fish prints
10/21/03	6 Kodiak Schools		Elem/MS/HS	Check incubators, setup shedules
10/22/03	Main	42	Elementary	Dissection

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Date	School (Organization)	# Students	Age Group	Subject
10/22/03	Old Harbor	10	Elem/MS/HS	Setup incubator, egg take
10/23/03	Old Harbor	35	Elem/MS/HS	Dissection, life cycle, fish prints
10/24/03	Ousinkie	22	Elem/MS/HS	Egg take, dissection, life cycle, fish prints
10/26/03	Port Lions		Elem/MS/HS	Setup incubator
10/27/03	Port Lions	42	Elem/MS/HS	Life cycle, dissection, fish prints
10/28/03	North Star	55	Elementary	Dissection
10/28/03	Peterson	30	Elementary	Life cycle, setup incubator
10/29/03	East	70	Elementary	Dissection
10/29/03	St. Marys	37	Elementary	Dissection
10/29/03	Kodiak HS		High School	Setup incubator
10/30/03	Kodiak Schools	244	Elem/MS/HS	Egg take for classroom inubation
11/05/03	Swanson	66	Elementary	Dissection
11/05/03	Swanson	90	Elementary	2 dissections
11/06/03	Colony High	30	High School	Watershed, stocked lake presentation
11/07/03	Meadow Lakes	60	Elementary	Dissection
11/07/03	Mat-Su Youth Facil.	11	High School	Dissection, career presentation
11/12/03	Colony Middle	34	Middle School	Watershed, stocked lake presentation
11/12/03	Colony Middle	32	Middle School	Watershed, stocked lake presentation
11/13/03	Pioneer Peak	75	Elementary	3 dissections
11/14/03	Big Lake	23	Elementary	Dissection
11/14/03	Goose Bay	42	Elementary	Dissection
11/17/03	Wasilla High	50	High School	Career & aquatic ed presentation
11/17/03	Sutton	35	Elementary	Dissection
11/18/03	Snowshoe	80	Elementary	Dissection
11/19/03	Sherrod	50	Elementary	Dissection
11/20/03	Tanaina	100	Elementary	2 dissections
11/21/03	Larson	26	Elementary	Dissection
11/24/03	Teeland	60	Middle School	2 dissections
11/25/03	Teeland	58	Middle School	2 dissections
12/02/03	Wasilla High	20	High School	Fly tying
12/03/03	Butte	50	Elementary	Dissection
12/04/03	Larson	28	Elementary	Design a fish

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Date	School (Organization)	# Students	Age Group	Subject
12/08/03	Pioneer Peak	75	Elementary	Fly tying
12/09/03	Goose Bay	42	Elementary	Fly tying
12/09/03	Tanaina	100	Elementary	Fly tying
12/10/03	Cottonwood Creek	46	Elementary	Fly tying
12/10/03	Sherrod	55	Elementary	Fly tying
12/11/03	Larson	56	Elementary	Fly tying
12/11/03	Sutton	26	Elementary	Fly tying
12/12/03	Swanson	44	Elementary	Fly tying
12/12/03	Meadow Lakes	60	Elementary	Fly tying
12/15/03	Colony Middle	64	Middle School	Fly tying
12/15/03	Snowshoe	42	Elementary	Fly tying
12/16/03	Butte	50	Elementary	Fly tying
12/18/03	Teeland	50	Middle School	Fly tying
12/18/03	Wasilla Middle	20	Middle School	Fly tying

APPENDIX 0

Appendix O1.-Salmon escapement goal policy.

This policy applies only to wild anadromous Pacific salmon. Definition of terms used in this policy are contained in the Sustainable Salmon Fisheries Policy.

- (a) Unless otherwise directed by regulation, the department will manage Alaska's salmon fisheries, to the extent possible, for maximum sustained yield (MSY) as measured in numbers of fish. To this end, the department will pursue the further development of escapement enumeration programs, inseason fishery management programs, and scientific methods to determine escapement levels that produce MSY. In situations where the department lacks the necessary management program and scientific information to manage for MSY, fishery management measures will be adopted to ensure that harvests are sustainable;
- (b) The purposes of this policy are to:
 - (1) Specify criteria and procedures for establishing and modifying escapement goals;
 - (2) Establish a process that facilitates public review of allocative issues associated with establishing and modifying escapement goals;
 - (3) Define concepts relating to escapement goals.
- (c) The department will document, establish, modify, and review escapement goals as follows:
 - (1) The department will document existing salmon escapement goals for all stocks that are currently managed for an escapement goal. The department will classify each goal so that it is consistent with this policy, provide a brief explanation of the origin of the current goal, and identify the method for estimating or indexing escapement. The department will revise reports as escapement goals are established or modified;
 - (2) Escapement goals will be established, recognizing that escapement consists of many individual spawning populations and that it is not technically nor logistically possible to assess each individual spawning population. Escapement goals will be established for aggregates of individual spawning populations with similar productivity and vulnerability to fisheries, and the aggregate stock managed as a unit;
 - (3) Sustainable escapement goals (SEGs) may be established for stocks for which the department can reliably estimate or index salmon escapement levels, and when information is not available to estimate the range of escapements that produce MSY. For these stocks, an SEG will be established based on past levels of escapement that produced sustainable yields over a five to ten year period. SEGs will be set as a range of escapement levels, rather than as a single escapement level;
 - (4) Biological escapement goals (BEGs) will be established for stocks for which the department can reliably estimate or index salmon escapement levels as well as total annual returns. BEGs will be changed whenever new information indicates that future sustained harvest levels can be increased by that change. BEGs will be set as a range of escapement levels, rather than as a single escapement level. The lower and upper limits of the escapement range will be consistent with MSY and will be based on factors such as variability in stock productivity and data uncertainty;

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- (5) Whenever the department wishes to establish a new BEG or modify an existing BEG, a scientific analysis with supporting data must be prepared;
- (6) Whenever significant allocation impacts arise from management actions needed to achieve an existing or proposed BEG or SEG, findings will be presented to the board for resolution of allocative impacts. The department may request the board to consider a regulatory management plan that establishes optimal escapement goals (OEGs) for affected stocks;
- (7) Recommendations for establishing and modifying BEGs or SEGs will be developed as new scientific information is obtained and new methods or programs for escapement enumeration are implemented. The department may review OEGs either at the request of the Alaska Board of Fisheries or on a schedule that conforms to the Alaska Board of Fisheries cycle of consideration of area regulatory proposals;
- (8) The public will be informed whenever new BEGs or SEGs are established or existing BEGs or SEGs are modified. Notification may include news releases, announcements posted at department office buildings, and review of changes with advisory committees in affected areas and with groups that use affected stocks;
- (9) For fisheries not otherwise managed under a regulatory plan the department will attempt to ensure that BEGs or SEGs are attained for all the harvested stocks. The department will analyze and provide advice on biological and allocation impacts of various OEGs the Alaska Board of Fisheries may wish to consider;
- (10) In developing draft management plans for stocks with significant inriver harvests, specific allocations to inriver fisheries may be added to the BEG, SEG or OEG to set an inriver run goal. The draft management plan may define specific action points and associated management actions that the department will follow in managing fisheries to meet an OEG or an inriver run goal.

Appendix O2.-Policy for the Management of Sustainable Salmon Fisheries, 5 AAC 39.222.

- (a) The Board of Fisheries (board) and Department of Fish and Game (department) recognize that
- (1) while, in the aggregate, Alaska's salmon fisheries are healthy and sustainable largely because of abundant pristine habitat and the application of sound, precautionary, conservation management practices, there is a need for a comprehensive policy for the regulation and management of sustainable salmon fisheries;
 - (2) in formulating fishery management plans designed to achieve maximum or optimum salmon production, the board and department must consider factors including environmental change, habitat loss or degradation, data uncertainty, limited funding for research and management programs, existing harvest patterns, and new fisheries or expanding fisheries;
 - (3) to effectively assure sustained yield and habitat protection for wild salmon stocks, fishery management plans and programs require specific guiding principles and criteria, and the framework for their application contained in this policy.
- (b) The goal of the policy under this section is to ensure conservation of salmon and salmon's required marine and aquatic habitats, protection of customary and traditional subsistence uses and other uses, and the sustained economic health of Alaska's fishing communities.
- (c) Management of salmon fisheries by the state should be based on the following principles and criteria:
- (1) wild salmon stocks and the salmon's habitats should be maintained at levels of resource productivity that assure sustained yields as follows:
 - (A) salmon spawning, rearing, and migratory habitats should be protected as follows:
 - (i) salmon habitats should not be perturbed beyond natural boundaries of variation;
 - (ii) scientific assessments of possible adverse ecological effects of proposed habitat alterations and the impacts of the alterations on salmon populations should be conducted before approval of a proposal;
 - (iii) adverse environmental impacts on wild salmon stocks and the salmon's habitats should be assessed;
 - (iv) all essential salmon habitat in marine, estuarine, and freshwater ecosystems and access of salmon to these habitats should be protected; essential habitats include spawning and incubation areas, freshwater rearing areas, estuarine and nearshore rearing areas, offshore rearing areas, and migratory pathways;

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(v) salmon habitat in fresh water should be protected on a watershed basis, including appropriate management of riparian zones, water quality, and water quantity;

(B) salmon stocks should be protected within spawning, incubating, rearing, and migratory habitats;

(C) degraded salmon productivity resulting from habitat loss should be assessed, considered, and controlled by affected user groups, regulatory agencies, and boards when making conservation and allocation decisions;

(D) effects and interactions of introduced or enhanced salmon stocks on wild salmon stocks should be assessed; wild salmon stocks and fisheries on those stocks should be protected from adverse impacts from artificial propagation and enhancement efforts;

(E) degraded salmon spawning, incubating, rearing, and migratory habitats should be restored to natural levels of productivity where known and desirable;

(F) ongoing monitoring should be conducted to determine the current status of habitat and the effectiveness of restoration activities;

(G) depleted salmon stocks should be allowed to recover or, where appropriate, should be actively restored; diversity should be maintained to the maximum extent possible, at the genetic, population, species, and ecosystem levels;

(2) salmon fisheries shall be managed to allow escapements within ranges necessary to conserve and sustain potential salmon production and maintain normal ecosystem functioning as follows:

(A) salmon spawning escapements should be assessed both temporally and geographically; escapement monitoring programs should be appropriate to the scale, intensity, and importance of each salmon stock's use;

(B) salmon escapement goals, whether sustainable escapement goals, biological escapement goals, optimal escapement goals, or inriver run goals, should be established in a manner consistent with sustained yield; unless otherwise directed, the department will manage Alaska's salmon fisheries, to the extent possible, for maximum sustained yield;

(C) salmon escapement goal ranges should allow for uncertainty associated with measurement techniques, observed variability in the salmon stock measured, changes in climatic and oceanographic conditions, and varying abundance within related populations of the salmon stock measured;

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(D) salmon escapement should be managed in a manner to maintain genetic and phenotypic characteristics of the stock by assuring appropriate geographic and temporal distribution of spawners as well as consideration of size range, sex ratio, and other population attributes;

(E) impacts of fishing, including incidental mortality and other human-induced mortality, should be assessed and considered in harvest management decisions;

(F) salmon escapement and harvest management decisions should be made in a manner that protects non-target salmon stocks or species;

(G) the role of salmon in ecosystem functioning should be evaluated and considered in harvest management decisions and setting of salmon escapement goals;

(H) salmon abundance trends should be monitored and considered in harvest management decisions;

(3) effective management systems should be established and applied to regulate human activities that affect salmon as follows:

(A) salmon management objectives should be appropriate to the scale and intensity of various uses and the biological capacities of target salmon stocks;

(B) management objectives should be established in harvest management plans, strategies, guiding principles, and policies, such as for mixed stock fishery harvests, fish disease, genetics, and hatchery production, that are subject to periodic review;

(C) when wild salmon stocks are fully allocated, new fisheries or expanding fisheries should be restricted, unless provided for by management plans or by application of the board's allocation criteria;

(D) management agencies should have clear authority in statute and regulation to

(i) control all sources of fishing mortality on salmon;

(ii) protect salmon habitats and control non-fishing sources of mortality;

(E) management programs should be effective in

(i) controlling human-induced sources of fishing mortality and should incorporate procedures to assure effective monitoring, compliance, control, and enforcement;

(ii) protecting salmon habitats and controlling collateral mortality and should incorporate procedures to assure effective monitoring, compliance, control, and enforcement;

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(F) fisheries management implementation and outcomes should be consistent with regulations, regulations should be consistent with statutes, and effectively carry out the purpose of this section;

(G) the board will recommend to the commissioner the development of effective joint research, assessment, and management arrangements with appropriate management agencies and bodies for salmon stocks that cross state, federal, or international jurisdictional boundaries; the board will recommend the coordination of appropriate procedures for effective monitoring, compliance, control, and enforcement with those of other agencies, states, or nations;

(H) the board will work, within the limits of its authority, to assure that

- (i) management activities are accomplished in a timely and responsive manner to implement objectives, based on the best available scientific information;

- (ii) effective mechanisms for the collection and dissemination of information and data necessary to carry out management activities are developed, maintained, and utilized;

- (iii) management programs and decision-making procedures are able to clearly distinguish, and effectively deal with, biological and allocation issues;

(I) the board will recommend to the commissioner and legislature that adequate staff and budget for research, management, and enforcement activities be available to fully implement sustainable salmon fisheries principles;

(J) proposals for salmon fisheries development or expansion and artificial propagation and enhancement should include assessments required for sustainable management of existing salmon fisheries and wild salmon stocks;

(K) plans and proposals for development or expansion of salmon fisheries and enhancement programs should effectively document resource assessments, potential impacts, and other information needed to assure sustainable management of wild salmon stocks;

(L) the board will work with the commissioner and other agencies to develop effective processes for controlling excess fishing capacity;

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- (M) procedures should be implemented to regularly evaluate the effectiveness of fishery management and habitat protection actions in sustaining salmon populations, fisheries, and habitat, and to resolve associated problems or deficiencies;
 - (N) conservation and management decisions for salmon fisheries should take into account the best available information on biological, environmental, economic, social, and resource use factors;
 - (O) research and data collection should be undertaken to improve scientific and technical knowledge of salmon fisheries, including ecosystem interactions, status of salmon populations, and the condition of salmon habitats;
 - (P) the best available scientific information on the status of salmon populations and the condition of the salmon's habitats should be routinely updated and subject to peer review;
- (4) public support and involvement for sustained use and protection of salmon resources should be sought and encouraged as follows:
- (A) effective mechanisms for dispute resolution should be developed and used;
 - (B) pertinent information and decisions should be effectively disseminated to all interested parties in a timely manner;
 - (C) the board's regulatory management and allocation decisions will be made in an open process with public involvement;
 - (D) an understanding of the proportion of mortality inflicted on each salmon stock by each user group, should be promoted, and the burden of conservation should be allocated across user groups in a manner consistent with applicable state and federal statutes, including AS 16.05.251(e) and AS 16.05.258; in the absence of a regulatory management plan that otherwise allocates or restricts harvests, and when it is necessary to restrict fisheries on salmon stocks where there are known conservation problems, the burden of conservation shall be shared among all fisheries in close proportion to each fisheries' respective use, consistent with state and federal law;

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(E) the board will work with the commissioner and other agencies as necessary to assure that adequately funded public information and education programs provide timely materials on salmon conservation, including habitat requirements, threats to salmon habitat, the value of salmon and habitat to the public and ecosystem (fish and wildlife), natural variability and population dynamics, the status of salmon stocks and fisheries, and the regulatory process;

(5) in the face of uncertainty, salmon stocks, fisheries, artificial propagation, and essential habitats shall be managed conservatively as follows:

(A) a precautionary approach, involving the application of prudent foresight that takes into account the uncertainties in salmon fisheries and habitat management, the biological, social, cultural, and economic risks, and the need to take action with incomplete knowledge, should be applied to the regulation and control of harvest and other human-induced sources of salmon mortality; a precautionary approach requires

(i) consideration of the needs of future generations and avoidance of potentially irreversible changes;

(ii) prior identification of undesirable outcomes and of measures that will avoid undesirable outcomes or correct them promptly;

(iii) initiation of any necessary corrective measure without delay and prompt achievement of the measure's purpose, on a time scale not exceeding five years, which is approximately the generation time of most salmon species;

(iv) that where the impact of resource use is uncertain, but likely presents a measurable risk to sustained yield, priority should be given to conserving the productive capacity of the resource;

(v) appropriate placement of the burden of proof, of adherence to the requirements of this subparagraph, on those plans or ongoing activities that pose a risk or hazard to salmon habitat or production;

(B) a precautionary approach should be applied to the regulation of activities that affect essential salmon habitat.

(d) The principles and criteria for sustainable salmon fisheries shall be applied by the department and the board using the best available information, as follows:

(1) at regular meetings of the board, the department will, to the extent practicable, provide the board with reports on the status of salmon stocks and salmon fisheries under consideration for regulatory changes, which should include

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- (A) a stock-by-stock assessment of the extent to which the management of salmon stocks and fisheries is consistent with the principles and criteria contained in the policy under this section;
 - (B) descriptions of habitat status and any habitat concerns;
 - (C) identification of healthy salmon stocks and sustainable salmon fisheries;
 - (D) identification of any existing salmon escapement goals, or management actions needed to achieve these goals, that may have allocative consequences such as the
 - (i) identification of a new fishery or expanding fishery;
 - (ii) identification of any salmon stocks, or populations within stocks, that present a concern related to yield, management, or conservation; and
 - (iii) description of management and research options to address salmon stock or habitat concerns;
- (2) in response to the department's salmon stock status reports, reports from other resource agencies, and public input, the board will review the management plan, or consider developing a management plan, for each affected salmon fishery or stock; management plans will be based on the principles and criteria contained in this policy and will
- (A) contain goals and measurable and implementable objectives that are reviewed on a regular basis and utilize the best available scientific information;
 - (B) minimize the adverse effects on salmon habitat caused by fishing;
 - (C) protect, restore, and promote the long-term health and sustainability of the salmon fishery and habitat;
 - (D) prevent overfishing; and
 - (E) provide conservation and management measures that are necessary and appropriate to promote maximum or optimum sustained yield of the fishery resource;
- (2) in the course of review of the salmon stock status reports and management plans described in (1) and (2) of this subsection, the board, in consultation with the department, will determine if any new fisheries or expanding fisheries, stock yield concerns, stock management concerns, or stock conservation concerns exist; if so, the board will, as appropriate, amend or develop salmon fishery management plans to address these concerns; the extent of regulatory action, if any, should be commensurate with the level of concerns and range from milder to stronger as concerns range from new and expanding salmon fisheries through yield concerns, management concerns, and conservation concerns;

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(4) in association with the appropriate management plan, the department and the board will, as appropriate, collaborate in the development and periodic review of an action plan for any new or expanding salmon fisheries, or stocks of concern; action plans should contain goals, measurable and implementable objectives, and provisions, including

(A) measures required to restore and protect salmon habitat, including necessary coordination with other agencies and organizations;

(B) identification of salmon stock or population rebuilding goals and objectives;

(C) fishery management actions needed to achieve rebuilding goals and objectives, in proportion to each fishery's use of, and hazards posed to, a salmon stock;

(D) descriptions of new or expanding salmon fisheries, management concern, yield concern, or conservation concern; and

(E) performance measures appropriate for monitoring and gauging the effectiveness of the action plan that are derived from the principles and criteria contained in this policy;

(5) each action plan will include a research plan as necessary to provide information to address concerns; research needs and priorities will be evaluated periodically, based on the effectiveness of the monitoring described in (4) of this subsection;

(6) where actions needed to regulate human activities that affect salmon and salmon's habitat that are outside the authority of the department or the board, the department or board shall correspond with the relevant authority, including the governor, relevant boards and commissions, commissioners, and chairs of appropriate legislative committees, to describe the issue and recommend appropriate action.

(e) Nothing in the policy under this section is intended to expand, reduce, or be inconsistent with, the statutory regulatory authority of the board, the department, or other state agencies with regulatory authority that impacts the fishery resources of the state.

(f) In this section, and in implementing this policy,

(1) "allocation" means the granting of specific harvest privileges, usually by regulation, among or between various user groups; "allocation" includes quotas, time periods, area restrictions, percentage sharing of stocks, and other management measures providing or limiting harvest opportunity;

(2) "allocation criteria" means the factors set out in AS 16.05.251(e) considered by the board as appropriate to particular allocation decisions under 5 AAC 39.205, 5 AAC 75.017, and 5 AAC 77.007;

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- (3) "biological escapement goal" or "(BEG)" means the escapement that provides the greatest potential for maximum sustained yield; BEG will be the primary management objective for the escapement unless an optimal escapement or inriver run goal has been adopted; BEG will be developed from the best available biological information, and should be scientifically defensible on the basis of available biological information; BEG will be determined by the department and will be expressed as a range based on factors such as salmon stock productivity and data uncertainty; the department will seek to maintain evenly distributed salmon escapements within the bounds of a BEG;
- (4) "burden of conservation" means the restrictions imposed by the board or department upon various users in order to achieve escapement, rebuild, or in some other way conserve a specific salmon stock or group of stocks; this burden, in the absence of a salmon fishery management plan, will be generally applied to users in close proportion to the users' respective harvest of the salmon stock;
- (5) "chronic inability" means the continuing or anticipated inability to meet escapement thresholds over a four to five year period, which is approximately equivalent to the generation time of most salmon species;
- (6) "conservation concern" means concern arising from a chronic inability, despite the use of specific management measures, to maintain escapements for a stock above a sustained escapement threshold (SET); a conservation concern is more severe than a management concern;
- (7) "depleted salmon stock" means a salmon stock for which there is a conservation concern;
- (8) "diversity", in a biological context, means the range of variation exhibited within any level of organization, such as among genotypes within a salmon population, among populations within a salmon stock, among salmon stocks within a species, among salmon species within a community, or among communities within an ecosystem;
- (9) "enhanced salmon stock" means a stock of salmon that is undergoing specific manipulation, such as hatchery augmentation or lake fertilization, to enhance its productivity above the level that would naturally occur; "enhanced salmon stock" includes an introduced stock, where no wild salmon stock had occurred before, or a wild salmon stock undergoing manipulation, but does not include a salmon stock undergoing rehabilitation, which is intended to restore a salmon stock's productivity to a higher natural level;
- (10) "escapement" means the annual estimated size of the spawning salmon stock; quality of the escapement may be determined not only by numbers of spawners, but also by factors such as sex ratio, age composition, temporal entry into the system, and spatial distribution within the salmon spawning habitat;

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- (11) "expanding fishery" means a salmon fishery in which effective harvesting effort has recently increased significantly beyond historical levels and where the increase has not resulted from natural fluctuations in salmon abundance;
- (12) "expected yields" mean levels at or near the lower range of recent historic harvests if they are deemed sustainable;
- (13) "genetic" means those characteristics (genotypic) of an individual or group of salmon that are expressed genetically, such as allele frequencies or other genetic markers;
- (14) "habitat concern" means the degradation of salmon habitat that results in, or can be anticipated to result in, impacts leading to yield, management, or conservation concerns;
- (15) "harvestable surplus" means the number of salmon from a stock's annual run that is surplus to escapement needs and can reasonably be made available for harvest;
- (16) "healthy salmon stock" means a stock of salmon that has annual runs typically of a size to meet escapement goals and a potential harvestable surplus to support optimum or maximum sustained yield;
- (17) "incidental harvest" means the harvest of fish, or other species, that is captured in addition to the target species of a fishery;
- (18) "incidental mortality" means the mortality imposed on a salmon stock outside of directed fishing, and mortality caused by incidental harvests, interaction with fishing gear, habitat degradation, and other human-related activities;
- (19) "inriver run goal" means a specific management objective for salmon stocks that are subject to harvest upstream of the point where escapement is estimated; the inriver run goal will be set in regulation by the board and is comprised of the SEG, BEG, or OEG, plus specific allocations to inriver fisheries;
- (20) "introduced stock" means a stock of salmon that has been introduced to an area, or portion of an area, where that stock had not previously occurred; an "introduced stock" includes a salmon stock undergoing continued enhancement, or a salmon stock that is left to sustain itself with no additional manipulation;
- (21) "management concern" means a concern arising from a chronic inability, despite use of specific management measures, to maintain escapements for a salmon stock within the bounds of the SEG, BEG, OEG, or other specified management objectives for the fishery; a management concern is not as severe as a conservation concern;

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(22) "maximum sustained yield" or "(MSY)" means the greatest average annual yield from a salmon stock; in practice, MSY is achieved when a level of escapement is maintained within a specific range on an annual basis, regardless of annual run strength; the achievement of MSY requires a high degree of management precision and scientific information regarding the relationship between salmon escapement and subsequent return; the concept of MSY should be interpreted in a broad ecosystem context to take into account species interactions, environmental changes, an array of ecosystem goods and services, and scientific uncertainty;

(23) "mixed stock fishery" means a fishery that harvests fish from a mixture of stocks;

(24) "new fishery" means a fishery that new units of effort or expansion of existing effort toward new species, areas, or time periods, results in harvest patterns substantially different from those in previous years, and the difference is not exclusively the result of natural fluctuations in fish abundance;

(25) "optimal escapement goal" or "(OEG)" means a specific management objective for salmon escapement that considers biological and allocative factors and may differ from the SEG or BEG; an OEG will be sustainable and may be expressed as a range with the lower bound above the level of SET, and will be adopted as a regulation by the board; the department will seek to maintain evenly distributed escapements within the bounds of the OEG;

(26) "optimum sustained yield" or "(OSY)" means an average annual yield from a salmon stock considered to be optimal in achieving a specific management objective other than maximum yield, such as achievement of a consistent level of sustained yield, protection of a less abundant or less productive salmon stock or species, enhancement of catch per unit effort in sport fishery, facilitation of a non-consumptive use, facilitation of a subsistence use, or achievement of a specific allocation;

(27) "overfishing" means a level of fishing on a salmon stock that results in a conservation or management concern;

(28) "phenotypic characteristics" means those characteristics of an individual or group of salmon that are expressed physically, such as body size and length at age;

(29) "rehabilitation" means efforts applied to a salmon stock to restore it to an otherwise natural level of productivity; "rehabilitation" does not include an enhancement, which is intended to augment production above otherwise natural levels;

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(30) "return" means the total number of salmon in a stock from a single brood (spawning) year surviving to adulthood; because the ages of adult salmon (except pink salmon) returning to spawn varies, the total return from a brood year will occur over several calendar years; the total return generally includes those mature salmon from a single brood year that are harvested in fisheries plus those that compose the salmon stock's spawning escapement; "return" does not include a run, which is the number of mature salmon in a stock during a single calendar year;

(31) "run" means the total number of salmon in a stock surviving to adulthood and returning to the vicinity of the natal stream in any calendar year, composed of both the harvest of adult salmon plus the escapement; the annual run in any calendar year, except for pink salmon, is composed of several age classes of mature fish from the stock, derived from the spawning of a number of previous brood years;

(32) "salmon" means the five wild anadromous semelparous Pacific salmon species *Oncorhynchus sp.*, except steelhead and cutthroat trout, native to Alaska as follows:

- (A) chinook or king salmon (*O. tshawytscha*);
- (B) sockeye or red salmon (*O. nerka*);
- (C) coho or silver salmon (*O. kisutch*);
- (D) pink or humpback salmon (*O. gorbuscha*); and
- (E) chum or dog salmon (*O. keta*);

(33) "salmon population" means a locally interbreeding group of salmon that is distinguished by a distinct combination of genetic, phenotypic, life history, and habitat characteristics, comprised of an entire stock or a component portion of a stock; the smallest uniquely identifiable spawning aggregation of genetically similar salmon used for monitoring purposes;

(34) "salmon stock" means a locally interbreeding group of salmon that is distinguished by a distinct combination of genetic, phenotypic, life history, and habitat characteristics or an aggregation of two or more interbreeding groups which occur within the same geographic area and is managed as a unit;

(35) "stock of concern" means a stock of salmon for which there is a yield, management, or conservation concern;

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(36) "sustainable escapement goal" or "(SEG)" means a level of escapement, indicated by an index or an escapement estimate, that is known to provide for sustained yield over a 5 to 10 year period, used in situations where a BEG cannot be estimated due to the absence of a stock specific catch estimate; the SEG is the primary management objective for the escapement, unless an optimal escapement or inriver run goal has been adopted by the board, and will be developed from the best available biological information; the SEG will be determined by the department and will be stated as a range that takes into account data uncertainty; the department will seek to maintain escapements within the bounds of the SEG;

(37) "sustainable salmon fishery" means a salmon fishery that persists and obtains yields on a continuing basis; characterized by fishing activities and habitat alteration, if any, that do not cause or lead to undesirable changes in biological productivity, biological diversity, or ecosystem structure and function, from one human generation to the next;

(38) "sustained yield" means an average annual yield that results from a level of salmon escapement that can be maintained on a continuing basis; a wide range of average annual yield levels is sustainable; a wide range of annual escapement levels can produce sustained yields;

(39) "sustained escapement threshold" or "(SET)" means a threshold level of escapement, below which the ability of the salmon stock to sustain itself is jeopardized; in practice, SET can be estimated based on lower ranges of historical escapement levels, for which the salmon stock has consistently demonstrated the ability to sustain itself; the SET is lower than the lower bound of the BEG and lower than the lower bound of the SEG; the SET is established by the department in consultation with the board, as needed, for salmon stocks of management or conservation concern;

(40) "target species" or "target salmon stocks" means the main, or several major, salmon species of interest toward which a fishery directs its harvest;

(41) "yield" means the number or weight of salmon harvested in a particular year or season from a stock;

(42) "yield concern" means a concern arising from a chronic inability, despite the use of specific management measures, to maintain expected yields, or harvestable surpluses, above a stock's escapement needs; a yield concern is less severe than a management concern, which is less severe than a conservation concern;

(43) "wild salmon stock" means a stock of salmon that originates in a specific location under natural conditions; "wild salmon stock" may include an enhanced or rehabilitated stock if its productivity is augmented by supplemental means, such as lake fertilization or rehabilitative stocking; "wild salmon stock" does not include an introduced stock, except that some introduced salmon stocks may come to be considered "wild" if the stock is self-sustaining for a long period of time. (Eff. ____/____/2000, Register ____)

Authority: AS 16.05.251

APPENDIX P

Appendix P1.-Matanuska-Susitna Borough lake management plans.

Lake	Date Adopted	Lake Characteristics	Regulations
Big Lake	Aug-98	Surface Area: 2,495 acres Maximum Depth: 89 feet Mean Depth: 30 feet	Personal Watercraft Prohibited on Meadow Creek Quiet Hours: 11:00 p.m. - 8:00 a.m. Sun. - Sat. Ice House Registration No Wake Zone: 150 feet from shoreline
Blodgett Lake	Sep-97	Surface Area: 57.6 acres Maximum Depth: 29 feet Mean Depth: 10.7 feet	Horsepower Limit: 10 Personal Watercraft Prohibited Quiet Hours: 10:00 p.m. - 8:00 a.m. Sun. - Thurs. 11:00 p.m. - 8:00 a.m. Fri. - Sat.
Bonnie Lake Area	Nov-96	Surface Area: 105 acres Maximum Depth: 35 feet Mean Depth: Not Available	Electric Motors Only Personal Watercraft Prohibited
Upper Bonnie Lake		Surface Area: 99.8 acres Maximum Depth: 35 feet Mean Depth: Not Available	Personal Watercraft Prohibited
Bonnie Lake		Surface Area: 12 acres Maximum Depth: 25 feet Mean Depth: 12 feet	Horsepower Limit: 10 Personal Watercraft Prohibited
Ravine Lake			
Christiansen Lake	Sep-99	Surface Area: 179 acres Maximum Depth: 82 feet Mean Depth: 22 feet	Personal Watercraft prohibited 15 HP limit Quiet Hours: 10:00 p.m. to 8:00 a.m., Sunday - Sat. Special permit: To accommodate building construction, early season testing of river boats & other special uses. HP limit maybe waived by Special permit.
Crooked Lake	Aug-95	Surface Area: 250 acres Maximum Depth: 35 feet Mean Depth: 14 feet	No Wake Zone: 50 feet from shoreline at the public dock
Crystal Lake	Aug-96	Surface Area: 132 acres Maximum Depth: 24 feet Mean Depth: 11.7 feet	Quiet Hours: 10:00 p.m. - 8:00 a.m. Sun. - Sat.
Diamond Lake	Apr-99	Surface Area: 139 acres Maximum Depth: 23 feet Mean Depth: 7.6 feet	Horsepower Limit: 10 Quiet Hours: 10:00 p.m. - 8:00 a.m. Sun. - Sat. Ice House Registration No Wake Zone: 100 feet from ordinary high water mark
Fish Lake	Aug-97	Surface Area: 59 acres Maximum Depth: Not Mean Depth: Not Available	Horsepower Limit: 5

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Lake	Date Adopted	Lake Characteristics	Regulations
Honeybee Lake	Nov-97	Surface Area: 58 acres Maximum Depth: 35 feet Mean Depth: 13.5 feet	Electric Motors Only Quiet Hours: 7:00 p.m. – 9:00 a.m. Sun. – Sat.
Island & Doubloon Island Lake	Aug-96	Surface Area: 85 acres Maximum Depth: Not Mean Depth: Not Available	Personal Watercraft Prohibited
Doubloon Lake		Surface Area: 14 acres Maximum Depth: Not Mean Depth: Not Available	Personal Watercraft Prohibited
John Lake	Aug-96	Surface Area: 52 acres Maximum Depth: Not Mean Depth: Not Available	Horsepower Limit: 10 Quiet Hours: 10:00 p.m. – 8:00 a.m. Sun. – Sat. (electric and trolling motors allowed during quiet hours)
Knik Lake	Aug-95	Surface Area: 50 acres Maximum Depth: 37 feet Mean Depth: 19 feet	Horsepower Limit: 5 Quiet Hours: 10:00 p.m. – 8:00 a.m. Sun. – Thurs. 11:00 p.m. – 8:00 a.m. Fri. – Sat.
Long Lake (Houston)	Nov-01	Surface Area: 44 acres Maximum Depth: 17 feet Mean Depth: 8.8 feet	Personal Watercraft Prohibited Horsepower Limit: 10 No Wake Zone: 100 feet from ordinary high water mark Quiet Hours: 10:00 p.m. - 8:00 a.m. Sun - Sat
Marilee Lake	Sep-98	Surface Area: 33.8 acres Maximum Depth: 18 feet Mean Depth: 7.3 feet	Horsepower Limit: 5
Marion Lake	Nov-00	Surface Area: 113 acres Maximum Depth: 42 feet Mean Depth: 20.6 feet	Personal Watercraft Prohibited Quiet Hours: 10:00 p.m. - 8:00 a.m. Sun.- Sat. No Wake Zone: 100 feet from ordinary high water mark. Time Share: A lake-wide no wake speed except on Thursdays, Fridays, Saturdays, and all 3-day weekends mandated by federal holiday (Memorial Day, Fourth of July, and Labor Day).
Memory Lake	Sep-98	Surface Area: 84 acres Maximum Depth: 20 feet Mean Depth: 7.2 feet	Horsepower Limit: 10 Quiet Hours: 10:00 p.m. - 8:00 a.m. Sun.- Sat. Access to be day use only

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Lake	Date Adopted	Lake Characteristics	Regulations
Lower Neklasen Lake		Surface Area: 36 acres Maximum Depth: unknown Mean Depth: less than 5 feet	All Motorized Water Craft Prohibited
Question Lake	Sep-98	Surface Area: 80 acres Maximum Depth: unknown Mean Depth: unknown	Horse Power Limit: 5 Quiet Hours: 10:00 p.m. - 8:00 a.m. Sun - Sat Motor Vehicles prohibited during winter months when lake is frozen
Little Question Lake		Surface Area: 25 acres Maximum Depth: unknown Mean Depth: unknown	Non-motorized Quiet Hours: 10:00 p.m. - 8:00 a.m. Sun - Sat Motor Vehicles prohibited during winter months when lake is frozen
Lake Five and Unnamed Lakes		Surface Area: unknown Maximum Depth: unknown Mean Depth: unknown	Non-motorized Quiet Hours: 10:00 p.m. - 8:00 a.m. Sun - Sat All these lakes allow for a special permit to exceed motor limits for building construction Motor Vehicles prohibited during winter months when lake is frozen Ice House Registration
Rainbow Lake	Nov-95	Surface Area: 72.3 acres Maximum Depth: Not Available Mean Depth: Not Available	Horsepower Limit: 10 Quiet Hours: 10:00 p.m. - 8:00 a.m. Sun - Sat
Toad Lake	Sep-98	Surface Area: 50 acres Maximum Depth: unknown Mean Depth: 10 feet	Electric motors only
Twin Island Lake	Jul-97	Surface Area: 151 acres Maximum Depth: 61 feet Mean Depth: 14.8 feet	Horsepower Limit: 10 Quiet Hours: 10:00 p.m. - 8:00 a.m. Sun - Thurs 11:00 p.m. - 8:00 a.m. Fri - Sat Walk-in only access
Walby Lake	Sep-98	Surface Area: 54 acres Maximum Depth: 18 feet Mean Depth: 5.4 feet	Horsepower Limit: 10 Quiet Hours: 10:00 p.m. - 8:00 a.m. Sun - Sat Motor Vehicles prohibited during winter months when lake is frozen
West Papoose Lake	Aug-96	Surface Area: 212 acres Maximum Depth: Not Available Mean Depth: Not Available	Personal Watercraft Prohibited Quiet Hours: 11:00 p.m. - 8:00 a.m. Sun - Sat No Wake Zone: 100 feet from ordinary high water mark
Wolf Lake	Jul-97	Surface Area: 62 acres Maximum Depth: 17 feet Mean Depth: 6.8 feet	Horsepower Limit: 6 Motor Vehicles prohibited during winter months when lake is frozen
Cottonwood Lake	1995		Mufflers, cowlings, exhaust systems Quiet Hours: 11:00 p.m. - 8:00 a.m. Sun - Sat No Wake Zone: 100 feet from shoreline Special Events Permits
Finger Lake	1995		Mufflers, cowlings, exhaust systems Quiet Hours: 11:00 p.m. - 8:00 a.m. Sun - Sat No Wake Zone: 100 feet from shoreline Special Events Permits
Wasilla Lake	1995		Mufflers, cowlings, exhaust systems Quiet Hours: 11:00 p.m. - 8:00 a.m. Sun - Sat No Wake Zone: 100 feet from shoreline Special Events Permits
Cottonwood Creek	1995		Non-motorized